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BALKAN JOURNAL OF CLINICAL LABORATORY

XXIV, 16, 1

In this issue 24th Meeting of Balkan Clinical Laboratory Federation
05th - 07th October, 2016, Tirana, Albania

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XXIV, 16, 1

Swissmed

LABORATORY SOLUTIONS

Roche Diagnostics & sysmex

cobas® professional IVD solutions

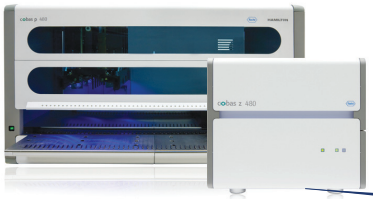
Sysmex XS-1000i

Hematology Analyzer

cobas® 6000 analyzer series

Clinical Chemistry Analyzer
& Immunochemistry Analyzer

cobas® 4800 System



Molecular Diagnostics

cobas® e 411 analyzer

Immunochemistry Analyzer

Cobas Serum Work Area solution
Immunochemistry
Clinical chemistry
Molecular diagnostics
Hematology
Urinanalysis
Coagulation
Histopathology
Pre and post analytics
LIS solutions

cobas® h 232

POC Analyzer

cobas® Integra 400 plus

Clinical Chemistry Analyzer

CoaguChek XS

cobas® u 411

Urine Analyzer

cobas® c 111

Clinical Chemistry Analyzer

Swissmed SHPK

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NEW GENERATION OF HEMATOLOGY ANALYSERS

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XN-2000

XN-9000

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Sysmex is a total solution provider to laboratories of all sizes throughout the world. With over forty years' experience in lab haematology, we deliver truly holistic concepts that cover the whole work area. Our solutions meet real laboratory and user needs – from the smallest detail to workflow design. And with representative sites in nearly all countries, our supply and service are leading in our field.

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The XP-300 offers a total of 20 parameters. Regardless of whether you are analysing a blood sample in whole blood or pre-diluted mode, the analysis result provides values for all 20 parameters. The XP-300 delivers the classic CBC plus advanced 3-part differentiation of white blood cells, **including a neutrophil count**, and so offers information with superior clinical utility, particularly in infections.*

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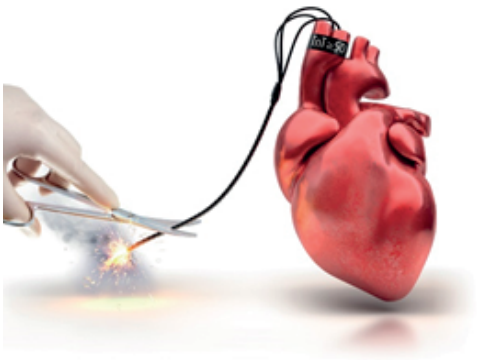

Test early. Treat right. Save lives.

Test early

New ESC guidelines recommend early intervention

Early invasive strategy within 24 hours recommended for all patients with high-risk non-ST-segment elevation acute coronary syndrome (NSTE-ACS).
Recommendations for invasive evaluation and revascularization in NSTE-ACS

Treat right

POC cTnT ≥ 50: Identify patients with suspected AMI at high risk of long-term mortality

PreHAP study1: Pre-hospital patients with suspected AMI with Roche CARDIAC POC Troponin T ≥ 50 ng / L

POC cTnT ≥ 50

- Represented 12 % of all patients with suspected AMI
- Had a 3 –10 times higher long-term mortality risk, irrespective of AMI
- Required direct delivery to coronary intensive care or cath lab for medical investigation

Long-term mortality risk of patients with suspected AMI

Save lives

POC cTnT ≥ 50 – For faster triaging in pre-hospital care and emergency room

- POC cTnT ≥ 50 in pre-hospital care and emergency room – allows faster triaging of high-risk individuals
- Can be achieved with the new Roche CARDIAC POC Troponin T test – with results in just 12 minutes
- Ensures quick and adequate treatment at the right location – contributes to saving time and costs

Roche CARDIAC POC Troponin T test on the cobas h 232 POC system

- Results in just 12 minutes – for rapid rule-in of high-risk individuals
- Precise results standardized with Elecsys® Troponin T high-sensitive (cTnT-hs) laboratory test in the quantitative range of 40 – 2000 ng / L, **
- Easy to use even in mobile situations

Test early. Treat right. Save lives.

POC cTnT ≥ 50.
Detect the danger.
Start action now.

Cardiac markers available for cobas h POC 232 system: Troponin T, NT-proBNP, D-Dimer, Myoglobin, CK-MB – for rapid on-the-spot decisions.

*AMI, Acute Myocardial Infarction; POC, Point of Care.
** The Roche CARDIAC POC Troponin T is standardized with Roche's Elecsys® Troponin T high-sensitive laboratory test that showed a 99 th percentile upper reference limit of a healthy cohort of 14 ng / L.

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- On board capability: 40 samples
- Reagent position: 9
- Sample and reagent continuous loading
- Random access or batch mode,STAT

MAGLUMI™ 1000

- Throughput: Maximum 120 tests/hour
- On board capability: 144 samples
- Reagent position: 15
- Sample and reagent continuous loading
- Random access or batch mode,STAT

MAGLUMI™ 2000

- Throughput: Maximum 180 tests/hour
- On board capability: 144 samples
- Reagent position: 15
- Sample and reagent continuous loading
- Random access or batch mode,STAT

MAGLUMI™ 2000 Plus

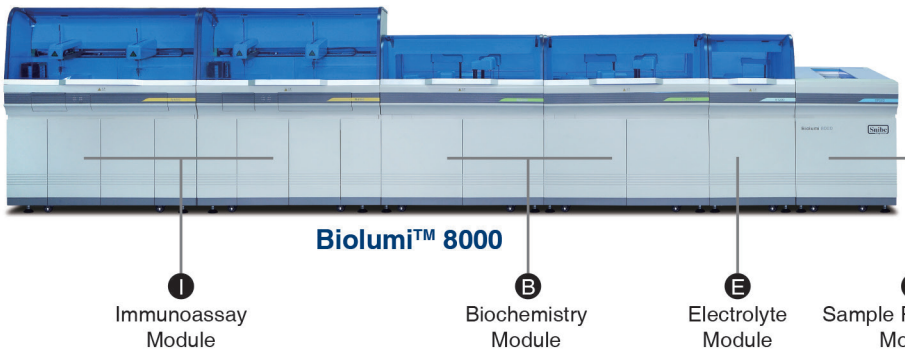
- Throughput: Maximum 180 tests/hour
- On board capability: 144 samples
- Reagent position: 25
- Sample and reagent continuous loading
- Random access or batch mode,STAT

MAGLUMI™ 4000

- Throughput: Maximum 280 tests/hour
- On board capability: 144 samples
- Reagent position: 25
- Sample and reagent continuous loading
- Random access or batch mode,STAT

Integrated System

Flexible combinations,Comprehensive solutions for all different requirements.



IMMUNOASSAY MODULE (I)

- Throughput: Maximum 280 tests/hour

BIOCHEMISTRY MODULE (B)

- Throughput: Maximum 1600 tests/hour

ELECTROLYTE MODULE (E)

- Throughput: Maximum 1000 tests/hour

SAMPLE PROCESSING MODULE (S)

- Loading 280 samples at one time

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Total PSA
f-PSA
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CA 15-3
CA 19-9
PAP
CA 50
CYFRA 21-1
CA 242
CA 72-4
NSE
S-100
SCCA
TPA-snibe
Pepsinogen I
Pepsinogen II
Gastrin-17
H.pylori IgG

TORCH

Toxo IgG
Toxo IgM
Rubella IgG
Rubella IgM
CMV IgG
CMV IgM
HSV-1/2 IgG
HSV-2 IgG
HSV-1/2 IgM

Immunoglobulin

IgM
IgA
IgE
IgG

Others

GH
IGF-I
Cortisol
ACTH

Infectious Disease

HBsAg
Anti-HBs
HBeAg
Anti-HBe
Anti-HBc
Anti-HCV
Syphilis
Chagas
HTLV I/II
Anti-HAV
HAV IgM
HIV Ab
HIV p24 Ag
HIV Ab/Ag combi

Cardiac

CK-MB
Troponin I
Myoglobin
NT-proBNP
Aldosterone
Angiotensin I
Angiotensin II
D-Dimer
* Direct Renin
Lp-PLA2
hs-cTnI

EBV

EBV EA IgG
EBV EA IgA
EBV VCA IgG
EBV VCA IgM
EBV VCA IgA
EBV NA IgG

Hepatic Fibrosis

HA
PIIIP N-P
C IV
Laminin
Cholyglycine

Thyroid

TSH(3rd Generation)
T_4
T_3
FT_4
FT_3
TG
TGA
TRAb
TMA
Anti-TPO
Rev T_3

Drug Monitoring

Cyclosporine A
Tacrolimus, FK 506
Digoxin

Glyco Metabolism

C-Peptide
Insulin
ICA
IAA
Proinsulin
GAD 65
IA-2

Anemia

Vitamin B_{12}
Ferritin
FA

Kidney Function

β_2-MG
Albumin

Fertility

FSH
LH
HCG/β-HCG
PRL
Estradiol
free Estriol
Progesterone
Testosterone
free Testosterone
DHEA-S
* AMH
17-OH Progesterone

Prenatal Screening

cAFP
free β-HCG
PAPP-A

Bone Metabolism

Intact PTH
Calcitonin
Osteocalcin
25-OH Vitamin D

Inflammation Monitoring

CRP
PCT

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Alegria® – The Future of Life

The New Dimension in Automation

The random access analyser Alegria® represents a new dimension in the fields of autoimmune and infectious disease diagnostics. Thanks to SMC® Technology developed by ORGENTEC, Alegria® provides a fully automated process for the detection of antibodies.

Unique in the market:

parallel analysis of serum, csf and stool samples in one single test run

SMC® Technology

- Each Alegria® Test Strip with proprietary SMC® Technology (Sensotronic Memorized Calibration) includes a complete set of reagents for testing the individual sample.
- The individual barcode of the Alegria® Test Strip includes all necessary information about the test, analysis and evaluation, and the expiration date of the test.
- For every individual analysis, SMC® Technology guarantees that only assays meeting most challenging quality requirements are used.

Alegria® Test Systems

Diagnostics of Autoimmune Diseases

Rheumatology Diagnostics

ANA Detect
ANAscreen
Anti-alpha-Fodrin IgG, IgA
Anti-C1q
Anti-CCP *hs (high sensitive)*®
Anti-Centromere B
Anti-dsDNA IgG, IgM, IgA, Screen
Anti-Histone
Anti-Jo-1
Anti-MCV®
Anti-Nucleosome
Anti-Rib-P
Anti-RNP/Sm
Anti-RNP-70
Anti-Scl-70
Anti-Sm
Anti-SS-A 52
Anti-SS-A 60
Anti-SS-A
Anti-SS-B
Anti-ssDNA
ENAscreen
Rheumatoid Factor IgG, IgM, IgA, Screen

Thrombosis Diagnostics

Anti-Annexin V IgG, IgM
Anti-beta-2-Glycoprotein I IgG, IgM, IgA, Screen
Anti-Cardiolipin IgG, IgM, IgA, Screen
Anti-Phosphatidic Acid IgG, IgM
Anti-Phosphatidyl Inositol IgG, IgM
Anti-Phosphatidyl Serine IgG, IgM
Anti-Phospholipid Screen IgG, IgM
Anti-Prothrombin IgG, IgM, IgA, Screen

ANCA and Vasculitis Diagnostics

ANCAscreen *hs (high sensitive)*
Anti-BPI
Anti-Cathepsin G
Anti-Elastase
Anti-GBM
Anti-Lactoferrin
Anti-Lysozyme
Anti-MPO (pANCA)
Anti-PR3 (cANCA)
Anti-PR3 *hs (high sensitive)*

Gastroenterology Diagnostics

AMA-M2
Anti-DGP IgA, IgG, Screen
Anti-Gliadin IgA, IgG, Screen
Anti-gp210
Anti-Intrinsic Factor
Anti-LC1
Anti-LKM-1
Anti-Parietal Cell
Anti-SLA
Anti-Sp100
Anti-Tissue-Transglutaminase IgA, IgG, Screen
ASCA IgG, IgA
Calprotectin
Lactoferrin

Thyroid Diagnostics

Anti-TG
Anti-TPO

Diabetes Diagnostics

Anti-Insulin

Bone and Mineral Metabolism

25-OH Vitamin D_3/D_2

Diagnostics of Infectious Diseases

Anti-Borrelia IgG, IgM Abs., IgG Liquor, IgM Liquor
Anti-B. pertussis Toxin IgA, IgG
Anti-Chlamydia pneumoniae IgA, IgG, IgM Abs.
Anti-Chlamydia trachomatis IgA, IgG, IgM Abs.
Anti-EBV (EBNA-1) IgG
Anti-EBV (VCA) IgG, IgM Abs., IgG Liquor
Anti-EBV (ZEBRA) IgM
Anti-Helicobacter pylori IgA, IgG
Anti-Hepatitis E IgG, IgM
Anti-HSV-1 IgG, IgM Abs.

Anti-HSV-2 IgG, IgM Abs.
Anti-HSV-1/2 IgG, IgM Abs., IgG Liquor
Anti-Measles Virus IgG, IgM Abs., IgG Liquor
Anti-Mumps Virus IgG, IgM Abs.
Anti-Mycoplasma pneumoniae IgA, IgG, IgM Abs.
Anti-Parvovirus B19 IgG, IgM Abs.
Anti-Rubella Virus IgG Liquor
Anti-VZV IgA, IgG, IgM Abs., IgG Liquor
Anti-Yersinia IgA, IgG

Test Strips with SMC® Technology

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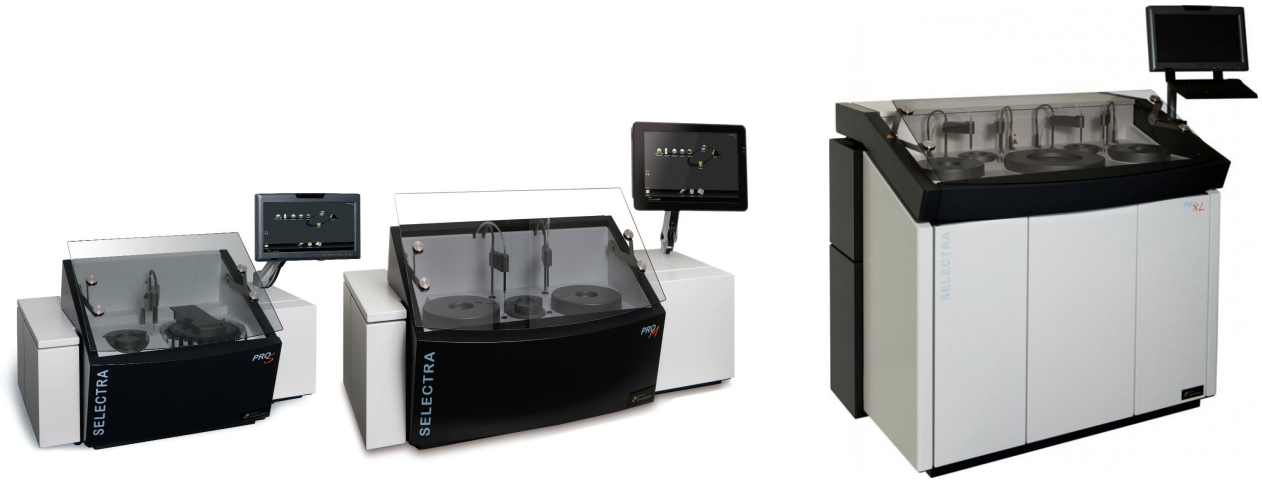
ELITech Clinical Systems



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Partners with your laboratory to provide solutions that allow you to:

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- Increase efficiency
- Meet increasing demands with declining resources

Is a global leader in the diagnostics market:

- Customers in 150+ countries
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- Recognized for our global reach and ability to serve customers

Provides a comprehensive portfolio of solutions to address your needs:

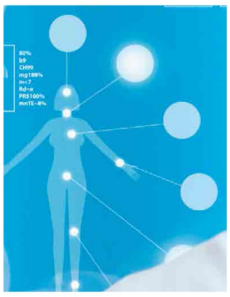
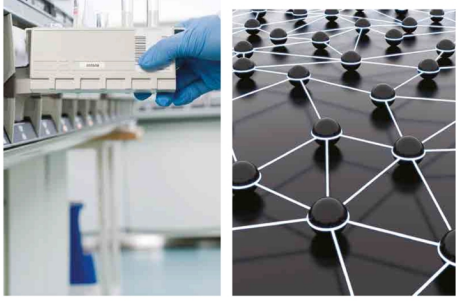
Process Improvement	Analytics	Informatics	Standalone Automation	Total Lab Automation (TLA)	Service Solutions

ARCHITECT PLUS FAMILY

Transform your lab

The ARCHITECT family delivers advanced technology with a simple and consistent user experience.



TRUE FAMILY COMMONALITY

The ARCHITECT family delivers advanced technology with a simple and consistent user experience.

Clinical Chemistry	Immunoassay	Integration
c16000	i4000SR	ci16200
c16000	i2000SR	ci16200
c8000	i2000SR	ci8200
c4000	i1000SR	ci4100

Increasing Volume

GET TO THE SCIENCE THAT REALLY MATTERS

Equivalent patient results

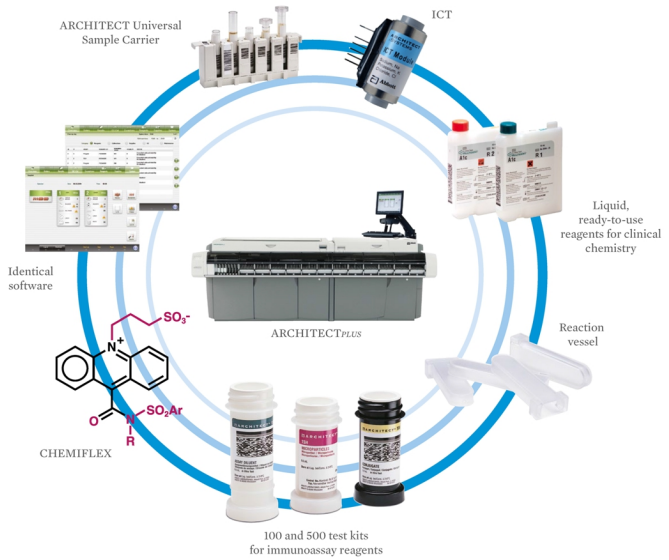
Identical technology, reagents and assay protocols generate patient results that are equivalent from system to system to allow for standardization across healthcare networks.

Identical software

ARCHITECT offers identical software across the entire family of instrumentation to streamline training and enhance ease of use for operators.

Universal ARCHITECT sample carrier

A universal sample carrier and common reagent packs are utilized on all ARCHITECT systems, allowing you to centralize inventory management and enhance ease of use for operators.



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First Pass Efficiency.
Getting it right the first time.

REPORTABLE WBC AND WBC DIFFERENTIAL RESULTS ON THE FIRST RUN, EVEN WHEN ABNORMAL CELLS AND INTERFERING SUB-STANCES ARE PRESENT:

- MAPSS (Multi-Angle Polarized Scatter Separation) technology provides laser-accurate optical readings for WBCs with differential
- Accurate identification using 4-angle scatter measurements
- Use of multiple scatterplot analysis for identification of abnormal cells and interfering substances

FIRST PASS OPTICAL PLATELETS. RIGHT THE FIRST TIME.

- The CELL-DYN Ruby 2-angle optical platelet count accurately enumerates and sizes to help ensure first pass reportable results
- Reduces reflex testing due to interference from micro-cytic RBCs, RBC fragments, WBC fragments and non-platelet particles

LYSIS-RESISTANT RBC MODE.

- RBC analysis includes 3-dimensional counts, indices and retics
- Optical RBC technology means fewer manual reviews

FLEXIBLE, EASY-TO-USE SOFTWARE.

- Features customizable views
- Easily performs non-routine tasks

ONLY THREE REAGENTS FOR COMPLETE CBC WITH 5-PART WBC DIFFERENTIAL ANALYSIS.

- WBC lyse
- HGB lyse
- Diluent/sheath

CELL-DYN Ruby

CELL-DYN RUBY

See brilliant results

CHOOSE TRANSFORMATION

A SHINING EXAMPLE OF ADVANCED TECHNOLOGY.

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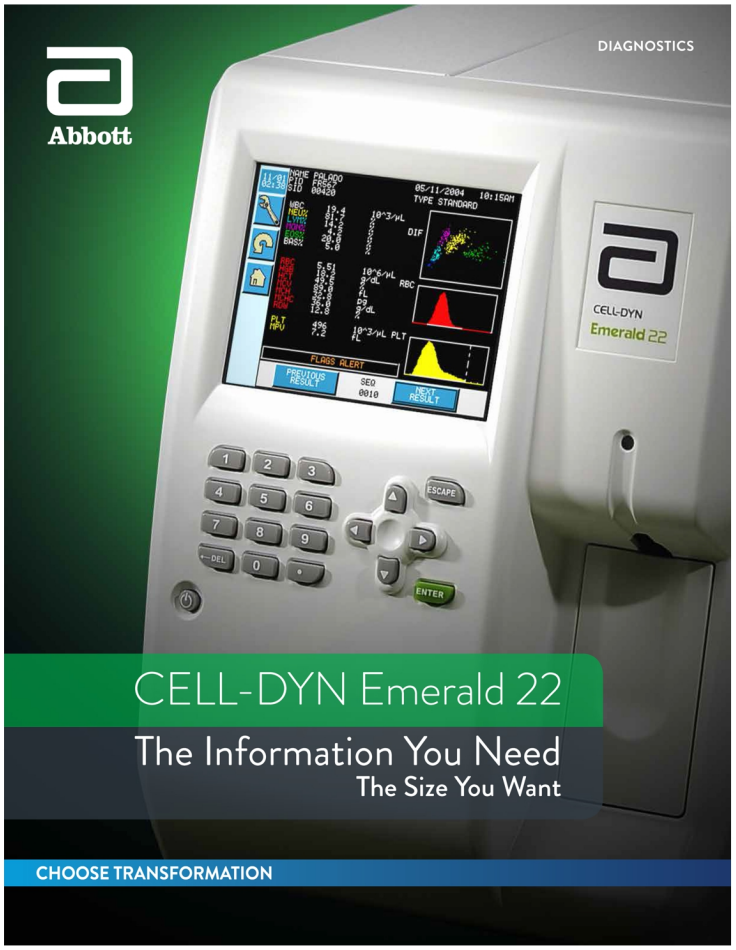
DIAGNOSTICS



CELL-DYN Emerald 22

The Information You Need
The Size You Want

CHOOSE TRANSFORMATION

Packed with Results

FULL PERFORMANCE SOLUTION FOR SMALLER LABORATORIES

COMPACT DESIGN
Conserving valuable laboratory workspace with a small footprint and only 2 reagents plus on-board cleaner

EASE OF USE

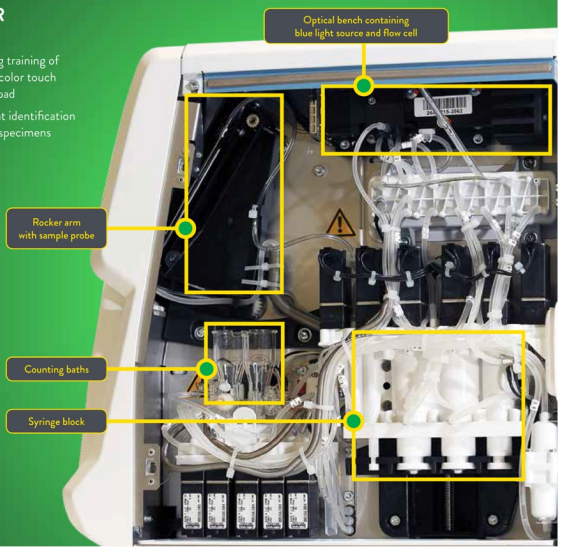
- Decreasing manual entry errors and increasing compliance by use of barcoded reagents
- Reducing hands-on time with touch-free scheduled daily maintenance, startup and shutdown

FLEXIBLE USER INTERFACE

- Improving use and easing training of software functions with color touch screen and numeric keypad
- Providing positive patient identification with barcode reader for specimens

RELIABILITY
Helping you keep your commitments

OPTICAL 5-PART DIFFERENTIAL
Delivering comprehensive results for your doctors and patients



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At Beckman Coulter, the lab is our business.

DxH 500

Low volume

DxH 600

Medium volume

DxH 800

High volume

DxH 801 Workcell

High volume

DxH 2401 Workcell

Ultra high volume

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AU 480 CLINICAL CHEMISTRY SYSTEM

Compact, reliable and cost-effective

The AU480 is the ideal primary chemistry analyzer for small, to mid-sized hospitals and laboratories. With throughput of up to 400 photometric tests per hour (up to 800 with ISEs), high onboard testing, reduced sample volume and easy operation the AU480 delivers efficiency for laboratories around the world.

AU 680 CLINICAL CHEMISTRY SYSTEM

Innovative features and clear benefits

The newest member of the high-performance Beckman Coulter laboratory analyzer series is the AU680 Chemistry System. Based on in-depth customer consultation, the AU680 Chemistry System offers a speed of up to 1200 tests per hour and an on-board capacity of up to 63 different tests in parallel.

AU 5800 SERIES - CLINICAL CHEMISTRY SYSTEM

Scalability and Throughput

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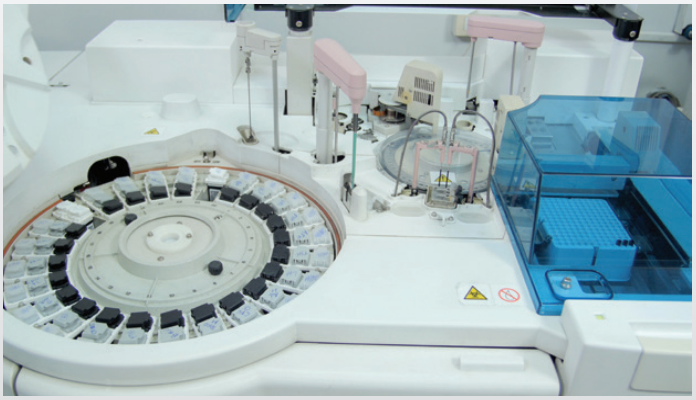

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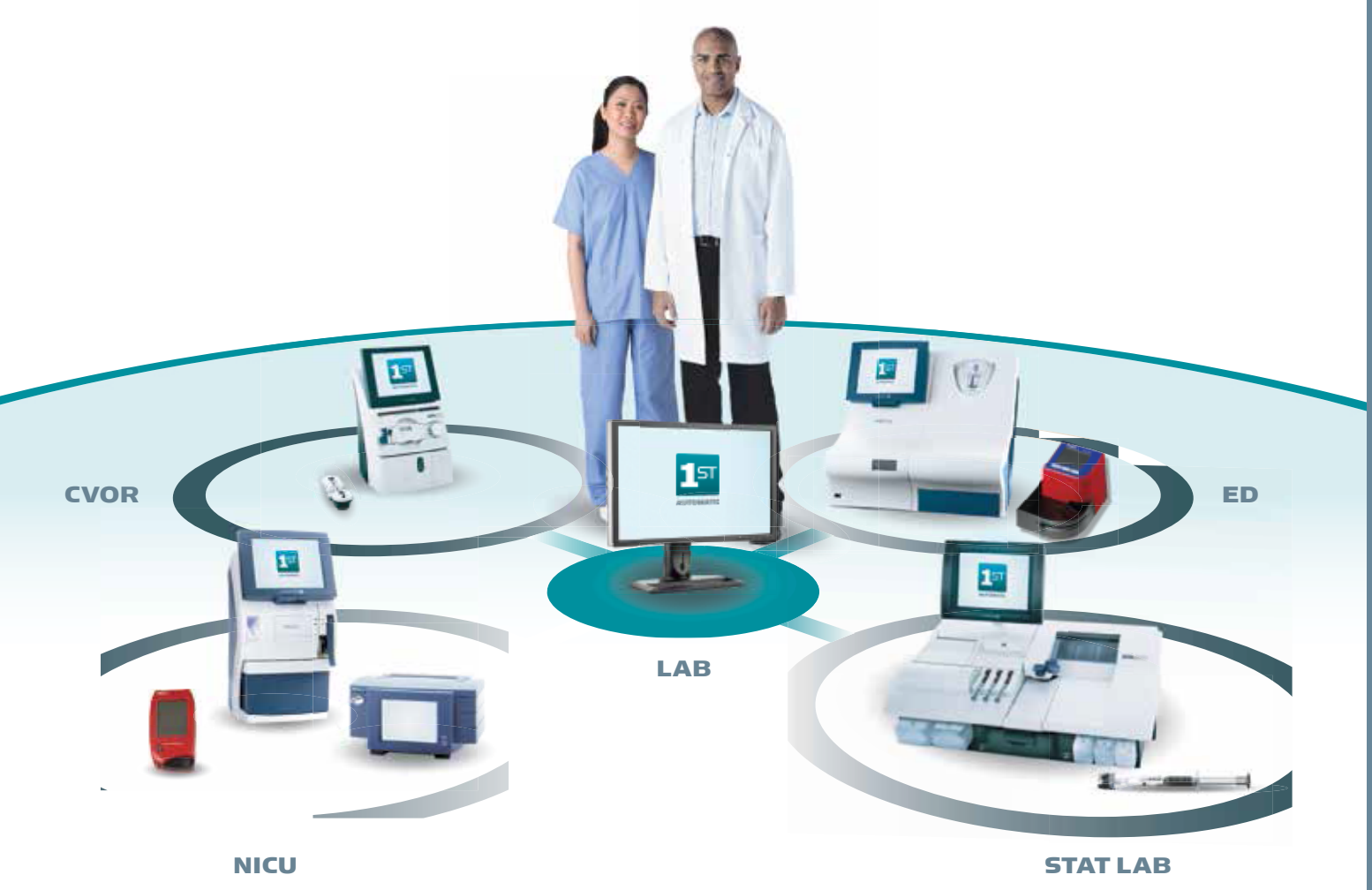

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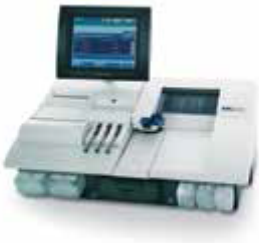

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- 18 STAT parameters from a single test
- Fully automated sample mixing and measurement

ABL90 FLEX analyzer

- Blood gas analyzer designed for ease of use at the POC
- Results in 35 sec from 65 µL samples
- Low maintenance and easy replacements

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- Safe, straightforward and accurate capillary sampling
- Unique surface treatment for fast filling
- Safe sealing and reduced risk of blood spillage

Blood gas & related parameters

ANALYZER \ TEST MENU	pH	pCO_2	pO_2	cK^+	cNa^+	cCa^{2+}	cCl^-	cGlu	cLac	cCrea	ctBili	sO_2	ctHb	FO_2Hb	FCOHb	FMetHb	FHHb	FHbF	Hct
ABL90 FLEX	●	●	●	●	●	●	●	●	●		●	●	●	●	●	●	●	●	
ABL800 FLEX	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
ABL800 BASIC	●	●	●	●	●	●	●	●	●			●	●						
ABL80 FLEX CO-OX	●	●	●	●	●	●	●	●				●	●	●	●	●	●		
ABL80 FLEX	●	●	●	●	●	●	●	●											●
ABL80 FLEX BASIC version	●	●	●	●	●	●	●												●
ABL80 FLEX CO-OX OSM version												●	●	●	●	●	●		

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- Immunoassay analyzer
- High analytical performance
- Fast TAT for timely clinical decision making

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- Smart and scalable solution based on the newest Microsoft technology
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- Diagnostic tool for patients suffering from vascular diseases

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Immunoassay markers

TEST MENU / ANALYZER	Troponin I	Troponin T	CKMB	Myoglobin	NT-proBNP	CRP	βhCG	D-dimer	PCT
AQT90 FLEX	●	●	●	●	●	●	●	●	●

TC parameters

TEST MENU / MONITOR	$tcpO_2$	$tcpCO_2$	SpO_2
TCM CombiM	●	●	
TCM TOSCA		●	●
TCM400	●		

HemoCue parameters

TEST MENU / ANALYZER	Glucose	Hemoglobin	White blood cell count
Glucose 201 DM	●		
Hb 201 DM		●	
WBC DIFF			●

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22 parameters

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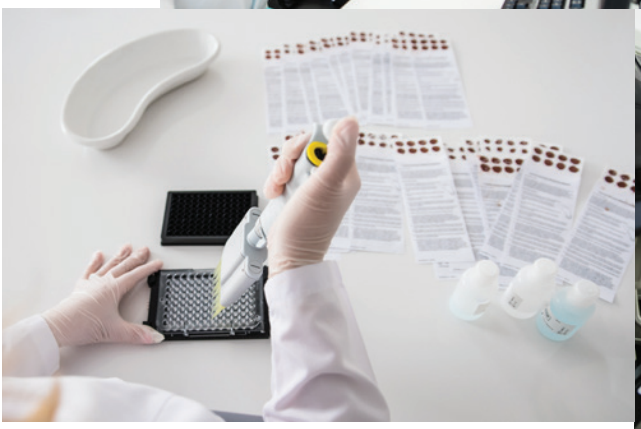

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B J C L

BALKAN JOURNAL OF CLINICAL LABORATORY

Journal of the Balkan Clinical Laboratory Federation

VOLUME XXIV - 2016 - NUMBER 1

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PRESIDENTS OF 24th BCLF MEETING

Etleva Refatllari, Albania
Anyla Bulo Kasneci, Albania
BCLF Past - President

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THE 24TH BCLF MEETING IS ORGANIZED UNDER THE AUSPICES OF THE:

International Federation of Clinical Chemistry and Laboratory Medicine

European Federation of Clinical Chemistry and Laboratory Medicine

SCIENTIFIC MEETING ORGANIZERS

Balkan Clinical Laboratory Federation

Albanian Society of Clinical Biochemistry & Laboratory Medicine

Laboratory Department, Faculty of Medicine, University of Medicine, Tirana

University Hospital Center “Mother Teresa”, Tirana, Albania

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University of Medicine, Tirana
University Hospital Centre “Mother Teresa”
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E-mail: bclf24@bclf2016.org
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EXHIBITION

During the 24th BCLF Meeting exhibition is arranged
at the Tirana International Hotel Halls.

Companies participated in exhibition:

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WELCOME TO TIRANA

Dear colleagues, Dear friends,

On behalf of the Organizing Committee and the Albanian Society of Clinical Biochemistry & Laboratory Medicine it's a great pleasure and honour for me inviting you to participate to the 24th Meeting of the Balkan Clinical Laboratory Federation and 4th Albanian National Conference of Clinical Biochemistry and Laboratory Medicine, which will be held from 5-7 October, 2016 in Tirana, Albania.

Fast technological changes in laboratory medicine have also brought an important change in the way of thinking for the patient's care. The tight cooperation between laboratory medicine specialists and clinicians nowadays are empowering this multidimensional field. This important scientific Balkan event organized successfully every year, offers an excellent scientific and professional level. It brings us closer with the trends and achievements in technology and scientific research.

Tirana is the ideal setting for such an important event. Tirana is a symbol of urban culture between the sea and the mountains, preserving Illyrian, Roman, Byzantine culture in an Oriental atmosphere between European elements and those typical Mediterranean' and Balkan' ones.
Nowadays, Tirana city and the metropolitan area nearby, is a typical and complex example of a city in constant evolution. It incorporates a mixture of structures and historical events, transforming Tirana in one of the most dynamic cities in Europe.

The 24th BCLF Meeting in Tirana will offer an exciting social programme which will enable you to understand Tirana history, tradition, culture and discover the many amusements this city offers to you.

Joining together with delegates and industrial partners, meeting fellow colleagues from across Europe will strengthen our friendship and professional communication.

I look forward to welcome you in Tirana.

Anyla Bulo Kasneci
24th BCLF Meeting President
BCLF Past President

WELCOME MESSAGE

Dear colleagues and friends,

On behalf of Balkan Clinical Laboratory Federation it is a great pleasure to welcome you to the 24th Meeting of the Balkan Clinical Laboratory Federation (BCLF), which will be held in Tirana, Albania, on October 5-7, 2016.

The world of clinical laboratories has undergone many changes in recent years regarding new diagnostic technologies and laboratory tests introduced, but regulatory requirements, quality assessment programs, compliance issues and increasing general administrative responsibilities of laboratory are not less challenging. Further, Balkan region is hardly immune to the cost savings affecting laboratory services worldwide including, among others, consolidation, outsourcing and regionalization of clinical laboratories. This year meeting of specialist involved in different fields of laboratory medicine from Balkan region will provide another opportunity to exchange experiences and help each other in coping with changing reality of our profession.

Scientific program of BCLF 2016 meeting coupled with ideal settings for live discussions will contribute to our efforts in maintaining leading role of laboratory medicine specialist in the application of emerging biomarker technologies and management of complex laboratory structures in new settings. All the participants will have the opportunity to improve knowledge about implementation of every domain of adding value to laboratory tests and contribution to our main goal - improvement of management and patient outcomes.

24th BCLF meeting in exciting and diverse Tirana will most certainly bring us even closer together and further strengthen our friendship. This colorful city well known for its value and hospitality towards guests, together with exciting social program insure another memorable BCLF gathering.
I wish you successful BCLF 2016 meeting and enjoyable staying in Tirana.

Najdana Gligorovic - Barhanovic
BCLF President

WELCOME MESSAGE

Dear distinguished guests, respected colleagues, and ladies and gentlemen.
It is my great pleasure to welcome you on behalf of International Federation of Clinical Chemistry and Laboratory Medicine (IFCC) at the 24th Meeting of the Balkan Clinical Laboratory Federation and the 4th Albanian National Conference of Clinical Biochemistry and Laboratory Medicine, in Tirana, Albania.

Whether you work in a hospital, a university, in private practice or in the diagnostics industry you are here in Tirana to share knowledge with many outstanding experts.
I am certain the organizing did an outstanding job in delivering a program of high quality and interest containing innovative ideas and of direct relevance to modern laboratory medicine. These are exciting times in the world of laboratory medicine. Therefore, laboratory medicine specialists and the diagnostic industry have a responsibility to work together to convert data into knowledge which can be used to add value to patients health.

Yours sincerely,
Prof. Maurizio Ferrari,
IFCC, President

BCLF

24th Meeting of Balkan Clinical Laboratory Federation

Scientific Program

Tirana International Hotel
Skanderbeg Square
Tirana, Albania

05th-07th October, 2016
Tirana, Albania

SCIENTIFIC PROGAMME

WEDNESDAY, OCTOBER 05, 2016

12:00 - 17:00 ***REGISTRATION***

17:00 ***OPENING CEREMONY***

WELCOME ADDRESSES

Prof. Anyla Bulo Kasneci, Meeting President, Albania

Prof. Najdana Gligorovic-Barhanovic, BCLF President, Montenegro

Prof. Maurizio Ferrari, IFCC President, Italy

Welcome address on behalf of local authorities

Chairs: N. Gligorovic-Barhanovic (Montenegro)
A. Bulo Kasneci (Albania)

17:30 ***OPENING LECTURE***

P4 MEDICINE: PREDICTIVE, PREVENTIVE, PERSONALIZED AND PARTICIPATORY A NEW TREND IN LABORATORY MEDICINE
Maurizio Ferrari (Italy)

19:00 ***WELCOME RECEPTION***

THURSDAY, OCTOBER 06, 2016

8:00 **REGISTRATIONS**

9:00-11:00 ***SCIENTIFIC SYMPOSIUM 1***

Chairs: M. Boncheva (Bulgaria)
E. Refatllari (Albania)

9:00 **MANAGEMENT OF HEART FAILURE: MORE PERSPECTIVES FROM THE VITAMIN D / PTH AXIS?**
D. Gruson (Belgium)

9:30 **ASSOCIATION OF CIRCULATING RESISTIN AND ITS RECEPTOR CYCLASE-ASSOCIATED PROTEIN 1 MRNA LEVELS WITH CORONARY ARTERY DISEASE**
M. Sopić, J. Joksić, V. Spasojević-Kalimanovksa, D. Kalimanovska-Oštrić, K. Anđelković, Z. Jelić-Ivanović (Serbia)

10:00 **LIPOPROTEIN-ASSOCIATED PHOSPHOLIPASE A_2: A NEW MARKER TO DETERMINE CARDIOVASCULAR RISK IN HYPERCHOLESTEROLEMIC DYSLIPIDEMIC CHILDREN**
B. Öngen, S. K. Uçar, E. Levent, E. Azarsız, T. Koloğlu, M. Çoker, E. Sözmen, F. G. Sağın (Turkey)

10:15 **THE ASSOCIATION BETWEEN VASOMOTOR SYMPTOMS WITH METABOLIC SYNDROME, INSULIN RESISTANCE AND TYPE 2 DIABETES IN PERI - AND POSTMENOPAUSAL WOMEN: SYSTEMATIC REVIEW**
M. Maneva, G. M. van Dijk, T. Muka, V. Colpani, K. Dhana, L. Jaspers, M. Kavousi, O.H. Franco (Macedonia)

10:30 **LABORATORY ANALYSIS IN THE DIAGNOSIS AND MANAGEMENT OF TYPE 1 DIABETES IN KOSOVO**
A. Kotori, V. Mulliqi Kotori (Kosova)

10:45 **SERUM GALECTIN-3 LEVELS IN PATIENTS WITH DIABETES MELLITUS**
M. Nuri Atalar, S. Abusoglu, S. Baldane, S. Hilmi İpekci, A. Unlu, L. Kebapcilar (Turkey)

11:00–11:30 ***COFFEE & EXHIBITION & PRACTICE***

11:30–13:15 ***SCIENTIFIC SYMPOSIUM 2***

Chairs: D. Rizos (Greece)
N. Heta Alliu (Albania)

11:30 **PROGNOSTIC VALUE OF CIRCULATING BIOMARKERS IN PATIENTS WITH ST-SEGMENT ELEVATION MYOCARDIAL INFARCTION**
S. Stankovic , D. Trifunovic, M. Asanin (Serbia)

12:00 **NEEDS OF POCT: WHEN, WHERE AND HOW**
M. Boncheva (Bulgaria)

ROCHE DIAGNOSTICS WORKSHOP

12:30 **THE VALUE OF LABORATORY TAILORED SOLUTION TO MEET CLINICIANS' EXPECTATION**

12:45 **HS TROPONIN T - 1 HOUR ALGORITHM AS A SOLUTION FOR UNMET MEDICAL NEED**

13:00 **NEW APPROACH IN CARDIAC POC SOLUTION TO SPEED UP PATIENT STRATIFICATION**

POSTER DISCUSSION LUNCH BREAK

14:00 **SNIBE DIAGNOSTIC WORKSHOP**
H.PYLORI, AN EARLY SERUM MARKER FOR GASTRIC DISEASE

15:00-16:30 ***SCIENTIFIC SYMPOSIUM 3***

Chairs: D. Labudovic (Macedonia)
A. Kotori (Kosova)

15:00 **THE NEW MEDICAL BIOLOGY GOVERNANCE MODELS IN FRANCE: STRATEGIES, OUTCOMES AND EUROPEAN EFFECTS**
B. Gouget (France)

15:30 **LABORATORY MEDICINE POSTGRADUATE TRAINING IN ALBANIA ACCORDING EUROPEAN SYLLABUS**
E.Refatllari, A. Bulo Kasneci, N. Marku, N. Heta Alliu, I. Korita, T. Dedej (Albania)

16:00 **CONTINUING PROFESSIONAL DEVELOPMENT OF THE HEALTH WORKFORCE IN ALBANIA**
E. Shehu (Albania)

16:15 **ACCREDITATION OF MEDICAL LABORATORIES IN ALBANIA**
M. Xhema (Albania)

16:30-17:00 ***COFFEE & EXHIBITION & PRACTICE***

17:00-19:00 ***SCIENTIFIC SYMPOSIUM 4***

Chairs: M. Ciprian-Valentin (Romania)
I. Korita (Albania)

17:00 **UNIFORM NOMENCLATURE AND CODING OF LABORATORY TESTS. A USEFUL TOOL NOT ONLY FOR LABORATORIES**
D. Rizos (Greece)

17:30 **DETERMINATION OF PLASMA PHENYLALANINE AND TYROSINE IN PATIENTS WITH PHENYLKETONURIA BY HPLC**
M.Ciprian-Valentin, C.Ladaşiu Ciolacu, C. Petrescu, I. Mandruţiu, D. Bechet (Romania)

18:00 **IQCP: PRACTICAL IMPLEMENTATION ON VITAMIN D IMMUNOASSAY, ADVENTAGES AND DISADVENTAGES**
P. Desoski, B. Jaglikovski, V. Soleva (Macedonia)

18:15 **ENDOTHELIAL PROGENITOR CELLS (EPCS) COUNT BY MULTICOLORFLOW CYTOMETRY**
M. Falay, F. Ceran, K. Güneş, S. Dagdaş, G. Özet (Turkey)

18:30 **BETA 2 MICROGLOBULIN, AS A RISK FACTOR IN CHRONIC HEMODIALYSIS PATIENTS**
V. Topçiu Shufta, V. Haxhibeqiri, L. Begolli, Z. Baruti (Kosova)

18:45 **ADVANTAGES OF CERULEIN-INDUCED PANCREATITIS MODEL IN RATS**
D.Thereska, A. Gjata, E. Bollano, K. Lilaj, S. Heta, N. Kacani (Albania)

19:00 **BCLF EXECUTIVE BOARD MEETING**

Chair: Najdana Gligorovic-Barhanovic (Montenegro)
BCLF President

FRIDAY, OCTOBER 07, 2016

9:00-11:00 ***SCIENTIFIC SYMPOSIUM 5***

Chairs: N. Majkic Singh (Serbia)
U. Görmüş (Turkey)

9:00 **ALCOHOL – METABOLISM AND RELATED HEALTH PROBLEMS, POSSIBLE BIOLOGICAL MARKERS FOR ALCOHOL ABUSE**
T. Zima (Czech Republic)

9:30 **POTENTIAL RISK PREDICTORS FOR CARDIOVASCULAR DISEASES IN PATIENTS WITH OBSTRUCTIVE SLEEP APNEA SYNDROME**
S. Ozben, N. Huseyinoglu, F. Hanikoglu, T. S. Guvenc, B. Zeynep Yildirim, A. Cort, S. Ozdem, T. Ozben (Turkey)

10:00 **INFLAMMATION MARKERS IN PATIENTS WITH ALCOHOLIC LIVER DISEASE**
I.Korita, S. Degandt, M. Langlois, J. Basho, E. Refatllari, N. Heta Alliu, N. Marku, A. Bulo Kasneci, V. Blaton (Albania)

10:15 **THE IMPORTANCE OF IMMUNOGLOBULIN G N-GLYCANS IN COLORECTAL CANCER**
K. Thaçi, F. Vučković, E. Theodoratou, S.M. Farrington, M. Perola, Y. Aulchenko, M.G. Dunlop, H. Campbell, G. Lauc (Kosova)

10:30 **OLD AND NEW BONE TURNOVER MARKERS: WHY LOOKING FOR NEW MARKERS**
A. Sepici Dinçel (Turkey)

10:45 **SERUM TUMOR MARKERS CA 15-3 AND CEA IN BREAST CANCER**
N. Serdarevic (Bosnia and Herzegovina)

11:00–11:30 ***COFFEE & EXHIBITION & PRACTICE***

11:30–13:30 ***SCIENTIFIC SYMPOSIUM 6***

Chairs: T. Ozben (Turkey)
J. Coric (Bosnia and Herzegovina)

11:30 **PRENATAL SCREENING AND FETAL DNA**
U. Görmüş (Turkey)

12:00 **PHARMACOGENOMICS AND PHARMACOMICROBIOMICS IN PRECISION MEDICINE**
B. Süsleyici (Turkey)

12:30 **OXIDATIVE STRESS STATUS AND LIPID PROFILE DURING PHYSIOLOGICA NON-COMPLICATED PREGNANCY**
D. Ardalic, A.Stefanovic, S. Spasic, A. Zeljkovic, J. Vekic, V. Kalimanovska Spasojevic, Z. Jelic Ivanovic, V. Mandic Markovic, Z. Milkovic (Serbia)

12:45 **LATE MANIFESTATIONS OF THE WILSON DISEASE, PRESENTATION OF CASE**
V. Belengeanu, C. Popescu, A. D. Belengeanu (Romania)

13:00 **ABBOTT DIAGNOSTICS WORKSHOP**
IMPROVE YOUR LAB QUALITY – SIX SIGMA

POSTER DISCUSSION LUNCH BREAK

14:00 **BECKMAN COULTER DIAGNOSTIC WORKSHOP**
ADVANTAGES OF AUTOMATED URINALYSIS IN CLINICAL CHEMISTRY

15:00-16.30 ***SCIENTIFIC SYMPOSIUM 7***

Chairs: S. Ignjatović (Serbia)
G. Sulcebe (Albania)

15:00 **HARMONIZATION IN LABORATORY MEDICINE**
M. Plebani (Italy)

15:30 **THE DIAGNOSTIC ROLE OF HLA GENOTYPING BEYOND TRANSPLANTATION**
G. Sulcebe (Albania)

16:00 **PRESENCE OF ANTI-NUCLEAR ANTIBODIES IN PATIENTS WITH HASHIMOTO THYROIDITIS**
J. Petrov (Macedonia)

16:15 **METABOLIC SYNDROME AND BRAIN WHITE MATTER HYPERINTENSITIES IN MYOTONIC DYSTROPHIES**
M. Vujnic, Peric S, Raseta N, Damjanovic D, Pesovic J, Savic-Pavicevic D, Rakocevic-Stojanovic V (Bosnia and Herzegovina)

16:30-17:00 ***COFFEE & EXHIBITION & PRACTICE***

17:00-19:00 ***SCIENTIFIC SYMPOSIUM 8***

Chairs: B. Süsleyici (Turkey)
I. Seferi (Albania)

17:00 **EPIDEMIOLOGIC ANALYSIS OF MYCOBACTERIUM TUBERCULOSIS GENETIC DIVERSITY IN ALBANIA: A FIVE YEAR STUDY**
S. Tafaj, E. Borroni, A. Trovato, D. Bardhi, H. Hafizi, P. Kapisyzi, S. Bala, D.M. Cirillo (Albania)

17:30 **NUCLEIC ACID TESTING FOR HIV, HBV AND HCV: BENEFITS AND ALGORITHMS FOR DONOR FOLLOW-UP**
I. Seferi, R. Skendaj, Zh. Abazaj, M. Basho, S. Qyra (Albania)

18:00 **PROSPECTIVE AND COMPARATIVE CLINICAL STUDY OF BLOOD RISK FACTORS IN PATIENTS WITH ALLERGIC ASTHMA ON IMMUNOTHERAPY**
L. Neziri-Ahmetaj, B. Mehic, R. Gojak (Kosova)

18:15 **THE PREVALENCE OF DNA-VIRAL INFECTION IN KIDNEY TRANSPLANT RECIPIENT**
M. Dibra, K. Hoti, D. Lacej, A. Mema, A. Daka, B. Arapi, M. Barbullushi, A. Koroshi, A. Koraqi, A. Idrizi (Albania)

18:30 **CLOSING CEREMONY**

21:00 **GALA DINNER**

POSTER SESSIONS

Poster Board Number

The poster board number correspond to the abstract code shown on the board

Poster display

Poster set up	09:00 - 10:00
Poster display	10:00 - 18:00

The authors must remove poster before 18:30. The organizers are not responsible for poster left on the display.

Poster Display: Thursday, October 06, 2016

• **Cardiovascular Disease**	**PP–TH–001**	**PP–TH–011**
• **Diabetes, Obesity/Metabolic Syndrome**	**PP–TH–012**	**PP–TH–021**
• **Gastrointestinal and Liver Disease**	**PP–TH–022**	**PP–TH–024**
• **Hematology and Coagulation**	**PP–TH–025**	**PP–TH–029**
• **Inflammation and Chronic Disease**	**PP–TH–030**	**PP–TH–037**
• **Oncology, Tumor Markers**	**PP–TH–038**	**PP–TH–042**
• **Oxidative stress and Antioxidants**	**PP–TH–043**	**PP–TH–045**
• **Renal disease**	**PP–TH–046**	**PP–TH–057**

Poster Display: Friday, October 07, 2016

• **Bone Metabolism and Vitamin D**	**PP – F – 058**	**PP – F – 063**
• **Endocrinology, Pregnancy**	**PP – F – 064**	**PP – F – 071**
• **Immunology**	**PP – F – 072**	**PP – F – 073**
• **Infectious disease**	**PP – F – 074**	**PP – F – 082**
• **Microbiology**	**PP – F – 083**	**PP – F – 091**
• **Quality assessment**	**PP – F – 092**	**PP – F – 099**
• **Technology, instrumentation and methods**	**PP – F – 100**	**PP – F – 106**
• **Molecular Biology in Diagnosis**	**PP – F – 107**	**PP – F – 108**
• **Varia**	**PP – F – 109**	**PP – F – 114**

Authors will be present at their posters from 13:00 until 14:00

• CARDIOVASCULAR DISEASE

PP – TH – 001
THE ROLE OF NT-PROBNP IN THE DIAGNOSIS OF PRECLINICAL DIASTOLIC DYSFUNCTION IN TYPE 2 DIABETIC MELLITUS PATIENTS
A. Banushi, S. Qirko, V. Paparisto, N. Kuka, A. Mitre, Z. Ylli, I. Refatllari, A. Bulo, A. Goda (Albania)

PP – TH – 002
PROBNP TESTING IN HEART FAILURE PATIENTS USING SACUBITRIL/VALSARTAN
E. Hasani, A. Mema, M. Dibra, A. Doko (Albania)

PP – TH – 003
B-TYPE NATRIURETIC PEPTIDE INDEPENDENTLY PREDICTS IN-HOSPITAL MORTALITY IN PATIENTS WITH ST-SEGMENT ELEVATION MYOCARDIAL INFARCTION TREATED BY PRIMARY PERCUTANEOUS CORONARY INTERVENTION
O. Gabric, N. Zlatic (Serbia)

PP – TH – 004
LEFT VENTRICULAR FAILURE EVALUATED BY NT PROBNP AND SERUM HEPCIDIN IN THALASSEMIA PATIENTS
V. Manolov, G. Dimitrov, T. Yaneva-Sirakova, R. Tarnovska-Kadreva, V. Vasilev, K. Tzatchev (Bulgaria)

PP – TH – 005
ANTICARDIOLIPIN AND ANTINUCLEAR ANTIBODIES AS POSSIBLE MARKERS FOR CORONARY ARTERY DISEASE IN YOUNG ALBANIAN PATIENTS TREATED WITH MYOCARDIAL REVASCULARIZATION PROCEDURES
J. Seiti, M. Cafka, M. Rroji, I. Balla, E. LLanaj, M. Jordhani, A. Goda (Albania)

PP – TH – 006
HYPERHOMOCYSTEINEMIA IN PATIENTS WITH DEEP VEIN THROMBOSIS
J. Brezovska-Kavrakova, M. Krstevska, K.Tosheska-Trajkovska, S. Cekovska, D. Spasovski (Macedonia)

PP – TH – 007
HIPERHOMOCYSTEINEMIA AND THE STAGE OF CORONARY ARTERY DISEASE
M. Krstevska, J. Kavrakova-Brezovska (Macedonia)

PP – TH – 008
EVALUATION OF MEAN PLATELET VOLUME (MPV) IN PATIENTS WITH ACUTE CORONARY SYNDROME
A. Rama, I. Berberi, S. Shehu, E. Harja, B. Resulaj, T. Dedej (Albania)

PP – TH – 009
PLATELET/LYMPHOCYTE RATIO IN PATIENTS WITH MYOCARDIAL INFARCTUS
A. Sivrikaya, S. Abusoglu, A. Unlu (Turkey)

PP – TH – 010
NON-INFECTIVE ENDOCARDITIS IN A PATIENT WITH FEVER
D. Teferici, A. Lloji, A. Idrizi, Y. Themeli (Albania)

PP – TH – 011
PREVALENCE OF MICROALBUMINURIA IN HYPERTENSIVE PATIENTS WITH OR WITHOUT DIABETES MELLITUS TYPE 2
I. Kostovska, M. Gjerakaroska, S. Cekovska, K. Tosheska-Trajkovska, J. Brezovska, D. Labudovic (Macedonia)

- **DIABETES, OBESITY, METABOLIC SYNDROME**

PP – TH – 012
THE RELATIONSHIP BETWEEN GLYCAEMIC CONTROL AND PRECLINICAL DIASTOLIC DYSFUNCTION IN PATIENTS WITH TYPE 2 DIABETES MELLITUS OR PREDIABETES
A. Banushi, S. Qirko, V. Paparisto, N. Kuka, Z. Ylli, I. Refatllari, N. Heta, A. Goda (Albania)

PP – TH – 013
SERUM ASYMMETRIC DIMETHYL ARGININE LEVELS IN PATIENTS WITH DIABETES MELLITUS
M.N. Atalar, A. Unlu, S. Baldane, S.H. İpekci, S. Abusoglu, L. Kebapcilar (Turkey)

PP – TH – 014
A RETROSPECTIVE STUDY: LIPID PROFILES IN GESTATIONAL DIABETIC INDIVIDUALS WITH E23K POLYMORPHISM IN KCNJ11 GENE
E. Menevse, A. Sivrikaya, H. Arikoglu, D. Erkoc Kaya (Turkey)

PP – TH – 015
CORRELATION OF Hb A1c AND BLOOD SUGAR DURING NINE WEEKS CHILDREN WITH DIABET TYPE 1
M. Kutllovci-Përvetica, L. Begolli, Sh. Veseli, V. Haxhibeqiri, E. Myrtaj, A. Lepaja, N. Bislimi, S. Hadergjonaj, N. Budima, B. Bislimi, D. Sopa, M. Shala (Kosova)

PP – TH – 016
CORRELLATION BETWEEN THE DIABETES MELLITUS TYPE 1 WITH THYROID DISFUNCTION
S.Biljali, N. Nuhii, D. Selmani, A. Beadini (Macedonia)

PP – TH – 017
DIABETIC NEPHROPATHY: MOST AFFECTED AGE-GROUP AND GENDER IN KOSOVO
E. Myrtaj, Z. Baruti-Gafurri, M. Kutllovci, V. Haxhibeqiri, Sh. Veseli (Kosova)

PP – TH – 018
URINARY BIOMARKERS IN THE EARLY DIAGNOSIS OF RENAL DAMAGE IN DIABETES MELLITUS PATIENTS
N.Trajkovska, B. Chadinovska, S. Todorova, T. Gruev, N. Gruev (Macedonia)

PP – TH – 019
MICROALBUMINURIA AS THE EARLY IDENTIFICATION OF IMPAIRMENT IN PATIENTS WITH DM
A. Goxharaj, H. Celo, R. Sinani, E. Hasani, B. Celo (Albania)

PP – TH – 020
VISCERAL ADIPOSITY INDEX CORRELATES WITH RETINOL-BINDING PROTEIN 4 AND INSULIN RESISTANCE, BETTER THAN ANTHROPOMETRIC PARAMETERS IN OVERWEIGHT/ OBESE ADOLESCENT GIRLS
A. Klisic, N. Gligorovic-Barhanovic, V. Skerovic, M. Jovanovic, N. Kavaric, J. Kotur-Stevuljevic (Montenegro)

PP – TH – 021
METABOLIC DISTURBANCES IN OBESITY
T. Ruskovska, Z. Popovska-Dimova, V. Nikolovski (Macedonia)

• GASTROINTESTINAL AND LIVER DISEASE

PP – TH – 022
IRON LOAD, FERRITIN AND SATURATED TRANSFERRIN PARAMETERS IN PATIENTS AFFECTED BY CIRRHOSIS IN ORDER TO FIND PATIENTS AFFECTED BY HEMOCHROMATOSIS GENETIC DISEASE (HFE GENE)
S. Leli, A. Bulo Kasneci, A. Babameto, A. Mitre, G. Zoraqi (Albania)

PP – TH – 023
A ROUTINE BLOOD TEST AT BASELINE MAY PREDICT NON-SVR IN CHRONIC HEPATITIS C (CHC) TREATMENT WITH PEGINF /RBV
A. Kristo, J. Basho, N. Leka, E. Petrela, A. Rucaj-Barbullushi, J. Cela, F. Prifti, J. Lavdari (Albania)

PP – TH – 024
THE DECLINE RATE OF ALT AT WEEK 4 MAY PREDICT SVR IN CHRONIC HEPATITIS C (CHC) PATIENTS TREATED WITH PEGINF AND RIBAVIRIN
A. Kristo, J. Basho, E. Petrela, A. Rucaj-Barbullushi, F. Prifti, J. Lavdari, E. Simaku (Albania)

• HEMATOLOGY AND COAGULATION

PP – TH – 025
ANEMIA IN PATIENTS WITH HIV/AIDS
E. Lamaj, M. Kokici, T. Dedej, P. Daja, N. Marku (Albania)

PP – TH – 026
THROMBOCYTOPENIA IN PATIENTS WITH HIV/AIDS
E. Lamaj, M. Kokici, T. Dedej, P. Daja, N. Marku (Albania)

PP – TH – 027
THE ROLE OF MCHC (HYPER DENSE ERYTHROCYTE) AS A NEW TOOL IN THE DIAGNOSIS OF HEREDITARY SPHEROCYTOSIS (HS)
A.Barbullushi, A.Godo, P. Daja, E. Refatllari, A. Beqja, D. Bali, M. Xhafa, A. Bulo (Albania)

PP – TH – 028
DEEP2 –CLINICAL TRIAL IN UHCT ” MOTHER TERESA”
M. Kreka, E. Nastas, E. Refatllari, A. Godo, A. Bulo, A. Krymi, J. Millo (Albania)

PP – TH – 029
THALASSEMIA TRAIT AND OTHER HAEMOGLOBINOPATHIES IN OUTPATIENT CLINICS OF UHCT “MOTHER TERESA” – A SIX MONTHS STUDY
E. Refatllari, N. Heta, I. Korita, M. Janko, A. Beqja, A. Barbullushi, Dh. Tarifa, A. Bulo (Albania)

• INFLAMMATION AND CHRONIC DISEASE

PP – TH – 030
PLASMA LEVELS OF MARKERS OF INFLAMMATION, AS EXPRESSION OF THE INTERCONNECTION OF PERIODONTITIS WITH ATHEROSCLEROSIS
S. Heta, I. Robo, D. Thereska, N. Alliu (Albania)

PP – TH – 031
SIGNIFICANCE OF F-CALPROTECTIN AND CRP DETERMINATION IN PATIENTS WITH

INFLAMMATORY DESEASE OF THE COLON AND IRITABILE BOWEL SYNDROME
M. Gajović, J. Djordjević, S. Dragašević (Serbia)

PP – TH – 032
MARKERS OF INFLAMMATION IN EARLY DYAGNOSIS OF SYSTEMIC LUPUS ERYTHEMATOSUS
N. Terzić Stanić, B. Stanić, N. Barhanović Gligorović, V. Nikolić, T. Antunović, I. Šestović-Milašević , I. Barać, J. Boljević (Montenegro)

PP – TH – 033
ERYTHROCYTE SEDIMENTATION RATE IN THE EVALUATION OF DISEASE ACTIVITY AND SEVERITY OF RHEUMATOID ARTHRITIS
V. Duraj, A. Kollçaku, D. Ruci, A. Zoto, E. Memlika, M. Jordhani (Albania)

PP – TH – 034
IS THERE ASSOCIATION BETWEEN RHEUMATOID ARTHRITIS, CARDIOVASCULAR EVENTS AND DIABETES MELLITUS?
D. Bartolovic, P. Ostojic, S. Stankovic (Serbia)

PP – TH – 035
THE ROLE OF SEROLOGY IN THE DIAGNOSTIC ALGORITHM OF CELIAC DISEASE
Xh. Ceka, P. Paparisto, I. Ceka, M. Mulla, R. Palluci (Albania)

PP – TH – 036
NON-INVASIVE VENTILATION DECREASES THE BLOOD LEVEL OF PaCO2, BUT INCREASES THE LEVELS OF PaO2 AND SaO2 IN PATIENTS WITH CHRONIC OBSTRUCTIVE PULMONARY DISEASE AND ACUTE RESPIRATORY FAILURE
E. Fype, O. Nuredini, M. Goga, A. Cuko, R. Kertoci, I. Skenduli, I. Ohri (Albania)

PP – TH – 037
BIOCHEMICAL AND CLINICAL BENEFITS OF NON-INVASIVE VENTILATION IN PATIENTS WITH CHRONIC OBSTRUCTIVE PULMONARY DISEASE AND ACUTE RESPIRATORY FAILURE
E. Fype, M. Goga, O. Nuredini, A. Cuko, R. Kertoci, I. Skenduli, I. Ohri (Albania)

- **ONCOLOGY, TUMOR MARKERS**

PP – TH – 038
PROMISING THERAPEUTIC TARGET OF PP2A AND THE EFFECT OF APOPTOSIS ON CML
B. Ozel, S. Kipçak, Ç. Aktan, Ç. Biray avci, C. Gunduz, G. Saydam, N. Selvi Gunel (Turkey)

PP – TH – 039
SERUM KCNJ3 AND KCNK9 LEVELS IN BENIGN AND MALIGN BRAIN TUMORS
N. Kılıç, S. Sarı, Z. Yıldırım, F.Doğulu, G. Kurt, N. Çeviker (Turkey)

PP – TH – 040
THE EFFECT ON ANGIOGENIC AND ANTIANGIOGENIC FACTORS OF TREATMENT IN NON-MUSCLE INVASIVE BLADDER CANCER
G. Temeltaş, F. Kosova, O. Üçer, T. Müezzinoğlu, Z. Arı (Turkey)

PP – TH – 041
PROGNOSTIC VALUE OF HAEMATOLOGICAL COUNTS AND TUMOR MARKERS IN PATIENTS WITH NON-SMALL CELL LUNG CANCER (NSCLC)
N.Trajkovska, L. Angelovska, S. Todorova, T. Gruev, N. Gruev (Macedonia)

PP – TH– 042
CEA AND Ca 19-9 AS PROGNOSTIC INDEX IN COLORECTAL CANCER
N.Trajkovska, L. Angelovska, B. Chadinovska, S. Todorova, T. Gruev, N. Gruev (Macedonia)

• OXIDATIVE STRESS AND ANTIOXIDANTS

PP – TH – 043
CELLULAR AND PLASMA LEVELS OF OXIDIZED PROTEINS AS A RISK FACTOR IN THE PROGRESSION OF ATHEROSCLEROSIS
D. Lazarova (Stevanoska), J. Dimitrova-Shumkovska (Macedonia)

PP – TH – 044
NUCLEIC ACIDS OXIDATIVE STRESS STATUS IN SJOGREN SYNDROME D.Tecer, R.Tural, A.Sepici Dincel, F. Gogus (Turkey)

PP – TH – 045
GREEK MOUNTAIN TEA EXTRACT DECREASES OXIDATIVE STRESS AND DEMONSTRATE SIGNIFICANT HEALTH BENEFIT
C. Menexi, V. Psicha, F. Kondyli Sarika, E.Lymperaki (Greece)

• RENAL DISEASE

PP – TH – 046
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A. Fico, M. Rroji, N. Spahia, S. Seferi, M. Barbullushi, N. Sinani (Albania)

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ABSTRACTS
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LP - 01

P4 MEDICINE: PREDICTIVE, PREVENTIVE, PERSONALIZED AND PARTICIPATORY A NEW TREND IN LABORATORY MEDICINE

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Personalized medicine, which simply means selection of treatment best suited for an individual, involves integration and translation of several new technologies in clinical care of patients. The scope is much broader than indicated by the term genomic medicine because many non-genomic factors are taken into consideration in developing personalized medicine.

The wide and public availability of the human genome sequence and the other tools spawned by the Human Genome Project have helped to create an unparalleled era of biomedical discovery.

Researchers have discovered hundreds of genes that harbour variations contributing to human illness, identified genetic variability in patients' responses to dozens of treatments, and begun to target the molecular causes of some diseases. In addition, scientists are developing and using diagnostic tests based on genetics or other molecular mechanisms to better predict patients' responses to targeted therapy. Since the completion of the mapping of the human genome, we have seen whole new areas of research evolve such as genomics, proteomics, and metabalomics.

Advances in DNA analysis to develop methods, which are increasingly specific, sensitive, fast, simple, automatable, and cost-effective, are considered paramount. These demands are currently driving the rapid evolution of a diverse range of newer technologies.

Although the potential diagnostic applications are unlimited, most important current applications are foreseen in the areas of biomarker research, cancer diagnosis and detection of infectious microorganisms.

There has been an explosion in the number of validated markers but relatively little independent analysis of the validity of the tests used to identify them in biologic specimens. The success of personalized medicine depends on having accurate diagnostic tests that identify patients who can benefit from targeted therapies.

Another important step will be expanding efforts to develop tissue banks containing specimens along with information linking them to clinical outcomes.

In this arena Laboratory Medicine should play a major role.

LP - 02

MANAGEMENT OF HEART FAILURE: MORE PERSPECTIVES FROM THE VITAMIN D / PTH AXIS?

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More personalized risk assessment of patients with heart failure (HF) is important to develop more tailored based care and for a better allocation of resources. The measurement of biomarkers is now part of the standards of care and is important for the sub-phenotyping of HF patients to demonstrate the activation of pathophysiological pathways engaged in the worsening of HF. Parathyroid hormone (PTH) is a major systemic calcium-regulating hormone and an important regulator of bone and mineral homeostasis. PTH testing is important for differential diagnosis of calcemia related disorders and for the management of patients with chronic kidney disease. Hyperparathyroidism is common in HF patients and has been associated to the severity of HF. Indeed, several reports showed that circulating PTH was related to disease severity as stratified according to the New York Heart Association (NYHA) functional classifications, and to the left ventricular ejection fraction (EF). In patients with HF-REF, significant relationships have been observed between PTH levels and well-established biomarkers of HF. The value of PTH testing to improve the risk stratification of HF-REF patients was also previously reported: the hormone was predictor of hospitalization for HF. The predictive value of PTH testing for cardiovascular and all cause mortality in HF-REF has been documented to be independent of known risk factors such as eGFR, LVEF, NT-proBNP, and age. Furthermore, in multiple biomarker approach, PTH measurement was additive to BNP and NT-proBNP testing for the cardiovascular risk assessment of HF patients.

LP - 03

ASSOCIATION OF CIRCULATING RESISTIN AND ITS RECEPTOR CYCLASE-ASSOCIATED PROTEIN 1 MRNA LEVELS WITH CORONARY ARTERY DISEASE

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Aim: Previous studies have suggested that resistin as proinflammatory cytokine plays and important role in development and progression of coronary artery disease (CAD). Some of these proinflammatory effects are exerted via recently identified receptor for human resistin named adenylate cyclase-associated protein 1 (CAP1).

Since CAP1 has not been previously evaluated in CAD, the aim of this study was to determine peripheral blood mononuclear cells (PBMCs)

CAP1 and resistin mRNA as well as plasma resistin concertation in CAD patients.

Material and methods: 66 patients with presenting symptoms of CAD (24 with (CAD+) and 42 without significant stenosis (CAD-), assessed by coronary angiography) and 27 healthy subjects (CG) were recruited for this study. CAP1 and resistin mRNA levels in PBMCs were determined by real-time PCR. Circulating resistin was measured by ELISA.

Results: CAD+ and CAD- patients had significantly higher criculating resistin concentrations compared to the CG (P<0.001; P=0.003). Resistin mRNA didn`t show significant difference between the investigated groups. CAP1 mRNA levels were significantly higher in CAD+ (P<0.001) and CAD- (P<0.001) pateints compared to the CG; CAD+ also showed significantly higher CAP1 mRNA levels (P=0.043) compared to the CAD- group.

Conclusion: Observed significant up-regulation of CAP1 mRNA found in CAD+ compared to CAD- and CG, together with plasma resistin increase in CAD patients, indicates that resistin could be able to exert its effects stronger on cells with up-regulated CAP1 mRNA, and in that way contribute to progression of CAD.

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LP - 04

PROGNOSTIC VALUE OF CIRCULATING BIOMARKERS IN PATIENTS WITH ST-SEGMENT ELEVATION MYOCARDIAL INFARCTION

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Acute myocardial infarction is a serious life-threatening cardiovascular disease and major healthcare problem. It is characterized by myocardial cell death due to necrosis and

apoptosis. In acute ST-segment elevation myocardial infarction (STEMI), plaque rupture with the formation of an occluding thrombus is usually the underlying cause of myocardial ischemia. Despite dramatic therapeutic advances, certain categories of STEMI patients still have an adverse forecast. Laboratory biomarkers, originally developed to complement clinical assessment, have been reported to play important prognostic roles in predicting adverse outcomes in patients with STEMI. The major classes of biomarkers were examined: biomarkers of necrosis, inflammatory cytokines, cellular adhesion molecules, acute-phase reactants, coronary plaque instability and rupture biomarkers, biomarkers of ischemia, and biomarkers of hemodynamic stress. The current knowledge on the biology of each major biomarker class, analytic issues important to laboratory and clinical practice, clinical application and clinical relevance as cardiovascular biomarkers will be summarized. Also, the additional knowledge about the incremental prognostic value of measurements of biomarkers beyond well-known risk scores in patients treated with primary percutaneous coronary intervention (PPCI) for STEMI will be presented. The focus will be on prognostic value of biomarkers (myeloperoxidase, lipoprotein phospholipase, B-type natriuretic peptide, cytokine, cytokine receptors, growth factors, and adhesion molecules) in relation to in-hospital mortality, occurrence of major adverse coronary events (death, reinfarction, target vessel revascualarisation, stroke), and prediction of atrial fibrillation during short- and long-term follow-up in STEMI patients treated by PPCI. A particularly noteworthy section will presents the cutting edge concepts of a multimarker approach in STEMI patients.

LP - 05

NEEDS OF POCT: WHEN, WHERE AND HOW

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Point of care testing (POCT) is defined as clinical testing done at or near the site of patient treatment and care in the medical field, and includes all clinical test other than those performed at hospital laboratories and outside testing centers. Home testing is also a form of POCT relating to residential medical care. The ratio of clinical tests based on POCT has not tended to increase as rapidly in Bulgaria, although such tests are greatly increasing in the USA while clinical tests performed at hospital laboratories are decreasing. POCT products are generally applied to direct analysis of test samples obtained from patients. Since storage, transportation or pretreatment after sampling is not necessary in POCT, test data can be obtained in real time. Therefore, it is important to complete testing immediately after obtaining samples without transporting or storing them, when handling POCT samples. Nanotechnology has exerted a significant impact in the development of biosensors allowing more sensible analytical methods. In health applications, the main challenge of the immunoassay is to reach the suitable limit of detection, recognizing different analytes in complex samples like whole blood, serum, urine, and other biological fluids. Consideration of POCT as a part of health care services covered by health insurance is the same as in the case of conventional testing. Recent technological innovation has provided a wide variety of POCT products that do not require medical equipment or reagents. Further development of novel, innovative POCT procedures in the near future is promising.

LP - 06

THE NEW MEDICAL BIOLOGY GOVERNANCE MODELS IN FRANCE: STRATEGIES, OUTCOMES AND EUROPEAN EFFECTS

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Medical biology and laboratory medicine are encompassing new dimensions: predictive, preventive, participative and personalized. They are dealing with medical, demographic, technological and social challenges. Currently, laboratory medicine benefits from major technological advances and new tools: selective robotics, nano/biosensors, decentralized laboratory medicine, genomics and other “omics”, precision medicine, mobile health and Internet connectivity. This will lead to a real revolution both in professional practice and the organization of laboratories with two trends: consolidation of technical facilities versus externalization to patients with increased interoperability requirements via information systems and e-health.

In France, the reform prioritizes: medicalization of the profession, harmonization of the public and private sectors, and regional organization of laboratory medicine. Strengthened consolidation of small hospital facilities is indispensable for graduated organization into networks reconciling local laboratory medicine and highly-specialized laboratory medicine and facilitates continuity of care. Proven quality is necessary for mandatory accreditation. The objective of reducing expenses is also clearly displayed by updating procedure nomenclature.

France is thus very highly-regarded abroad in the deployment of this laboratory medicine reform, which necessitates efficient regional organization governed by prudential rules. According to the French healthcare system modernization law of January 2016, the group strategy for public hospitals with regional synergies becomes paramount to better meet the challenge of quality at the best cost. Often too spread out, both public and private laboratory medicine is starting to reorganize to deal with quality and efficiency issues. To reach this objective, enhanced cooperation is essential. Standardization of data exchange, harmonization of software and interoperable laboratory information systems are prerequisites for restructuring. Teamwork is an essential lever for improving practices and quality within future regional hospital complexes, with a shared medical plan as a cornerstone. It is necessary to articulate the role of each of the hospitals and hospital university centers while considering major consolidations in the laboratory medicine sector.

While integrated networks financed by investment funds appear as the new business model, private practice laboratory medicine specialists are also being proactive by consolidating quickly as SELs (professional partnerships) and trying to expand their operating areas, to form national networks, and to develop an externalized offering while optimizing their governance, management and assets (real estate, technical facilities). Dealing with massive restructuring, individual IVD industrial operators are changing their equipment to more automated systems, with higher throughput and integrated into a robotic system. They are oriented more toward offering services rather than selling goods. The provision is gaining ground. They are also developing their business with engineering expertise and health economics departments to optimize costs and support customers with advice and implementation of performance indicators.

All the stakeholders in French laboratory medicine wished to enter the mandatory accreditation process. There are no notable public-private differences. This is an important point of support for the success of the reform since deployment is fraught with difficulty due to resources that are already stressed by restructuring. The conflict between accreditation and restructuring remains limited in extent even while it is causing anxiety. Some professionals are not thinking ahead sufficiently.

Accreditation is the means of evaluating and recognizing expertise, contributes to improving

the quality of medical laboratory testing and reconfigures the regional organization of laboratory medicine. It is internationally recognized. COFRAC, the single agency in France, has signed multilateral recognition agreements, EA (European Cooperation for Accreditation) and ILAC (International Laboratory Accreditation Cooperation). To this end, COFRAC accreditation is recognized as equivalent to accreditation from the other signers of the EA or ILAC agreements. To ensure compliance with the rules resulting from regulation EC 765/2008 governing accreditation activities in Europe and trust among accreditors, notably compliance with international standard ISO/CEI 17011, COFRAC is subject to regular evaluations by its peers, accreditation bodies in Europe and worldwide.

While in 2008, 5000 clinical laboratories were listed in France on June 1, 2016, 672/1007 laboratories listed are accredited for all or part of their activity and engaged in an extension process. 164 laboratories have already had a first evaluation and the decision process is underway. The fact that almost 85% of clinical laboratories (nearly 85% of hospital laboratories) are accredited on May 31, 2016 or about to be after evaluation is a remarkable result and illustrates the mobilization of the entire laboratory medicine profession and COFRAC for implementing reform.

This reform, which is on track, has nevertheless had technical difficulties being implemented. This delay is in part related to uncertainty, since 2010, on the future of the reform and the modalities of applying it. Since the parliamentary process for ratifying the order of January 13, 2010 has been interrupted several times, many professionals are taking a wait and see attitude. This delay, in the first years, was especially significant for healthcare facilities, for which the investments necessary for initiating the process were hindered because the order was not ratified by Parliament.

Laboratory medicine reform is ongoing and takes on a new dimension with the creation of regional hospital complexes (GHTs). By involving public hospitals in a shared vision of healthcare provision, this new mode of cooperation will permit better organizing treatment, region by region, and presenting a medical plan meeting the needs of the population. This plan must include the laboratory medicine plan. In order to organize laboratory medicine activities in common, facilities that are part of a complex could establish an inter-facility division or a joint laboratory. While the law and especially the decree require common organization of laboratory medicine activity, establishments are free regarding the organization modalities adopted. At a minimum, a reorganization of laboratory medicine activity is expected within the complex, and therefore progress in accreditation procedures for the clinical laboratories of the establishments making up the regional hospital complex. The accreditation process will have to evolve to take into account the common organization of laboratory medicine activity. Several options will be envisaged with regard to the level of integration of the laboratory medicine activity, up to a single accreditation process if a common laboratory is established.

The development of laboratory accreditation is not specific to France and concerns the majority of European countries, as shown by the EFLM (European Federation of Clinical Chemistry and Laboratory Medicine) accreditation working group survey in March 2014. However, few countries have defined a regulatory accreditation requirement in the field of laboratory medicine. Countries that have made this choice have generally limited it to certain tests such as Belgium (molecular biology testing), Czech Republic (genetic testing), Germany (neonatal testing), Greece (private clinical laboratories offering primary care), Ireland (immunohematology testing), Lithuania (biochemistry and hematology testing) and Serbia (human genome mutagens). Only Hungary (2017) and Latvia (2015) have chosen mandatory accreditation for all testing done. Accreditation is generally done according to standard ISO 15189 but a good number of European countries nevertheless maintain the possibility for laboratories to choose standard ISO/CEI 17025, which was the case in France before 2010. Like France, a good number of accreditation agencies have chosen accreditation of flexible scope, to better meet the needs of patients and prescribers.

The clinical laboratory accreditation process is well underway at this time. It is part of an approach seeking to better control laboratory medicine testing and better adapt the services provided to patient and prescriber needs as well as an efficiency approach in increasingly consolidated laboratories.

The process is also underway for pathological anatomy and cytology facilities (ACPs) on a voluntary basis, with 15 facilities accredited on May 31, 2016, of which 6 are hospitals. Based on the prospects opened by regional hospital complexes and shared imaging facilities, an accreditation system could be developed to help improve the quality of imaging procedures, and ultimately the quality of patient care.

This reform shows that laboratory medicine is an innovative discipline, which is proactive and can be modeled to be applied to other sectors of medical activity.

LP - 07

LABORATORY MEDICINE POSTGRADUATE TRAINING IN ALBANIA ACCORDING TO THE EUROPEAN SYLLABUS

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The last decade was characterized by a tremendous growth of technology and innovation as well as a surge in patients and clinicians' demands for new diagnostic tests. This has lead to an ongoing need for updating and improving the postgraduate training in all areas of medicine, especially in laboratory medicine, a field closely associated with technological developments.

Laboratory Medicine specialty in Albania comprises of three branches: Clinical Biochemistry, Microbiology and Histopathology. Physicians graduated from 6 year programs of medicine from public or private universities are eligible to apply for any of the above postgraduate programs. The candidates are then selected through a competition process based on meritocracy.

The Faculty of Medicine, Medical University, Tirana, a public institution, is the only one responsible for postgraduate training in laboratory medicine branches. Postgraduate training in laboratory medicine in Faculty of Medicine, UMT, was introduced for the first time in 1982, offering only the Microbiology branch. Clinical Biochemistry and Histopathology branches were added soon after, in 1984. During those years, 336 laboratory medicine specialists doctors: 105 clinical biochemistry specialists, 97 microbiology specialists and 44 histopathology specialists have graduated from this university.

Until recently, the quotas for each branch were determined by the Ministry of Health and the Ministry of Education and Sports. In October 2015 the new Law of Higher Education in Albania increased autonomy and competences of universities. Thus, today, the quotas are determined by the University of Medicine, Tirana, and the same university offering the program.

Laboratory medicine graduate syllabus' initial duration was 2 years, but was later increased to 3. With the increasing demand for quality and accreditation of higher education institutions, according to EU directives, the Department of Laboratory, FM, UTM, in 2014 applied a new laboratory medicine postgraduate syllabus in Clinical Biochemistry and Microbiology. These branches of laboratory medicine syllabus duration were once again increased, now from 3 to 4 years.

The new 4-year clinical biochemistry syllabus is firmly based on European recommendations of EC4: European Syllabus for Post-Graduate Training in Clinical Chemistry and Laboratory Medicine: version 4-2012 and UEMS recommendations: Recommended Standards for training Specialists in Laboratory Medicine/Medical Biopathology (Blue Book) May 2012. In this new syllabus one key objective is increasing the ability of laboratory specialists in areas which their role should be essential, such as interpretation, counseling and

resolving difficult diagnostic cases. In addition, a great importance is given to clinical practice at the bedside of patients. This improved syllabus hopes to prepare laboratory specialist doctors with higher competence and skills, directly improving the quality of service for both patients and clinicians doctors.

The Department of Laboratory, FM, UTM, in collaboration with Albanian Society of Clinical Biochemistry & Laboratory Medicine and Microbiology (ASoLaM and MSoLaM) will jointly carry out continuing education programs. Those programs will enable practicing specialists, graduated from the previous 2 or 3 year postgraduate programs, to enhance and update their knowledge in accordance with the new syllabus.

The continuous evolution of technology in the laboratory medicine field demands ongoing upgrading of postgraduate training in this specialty. Our university, by applying the new curricula, updated in both duration and content, based on EU recommendations, will produce specialist better equipped to face the challenges of today and tomorrow.

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LP - 08

UNIFORM NOMENCLATURE AND CODING OF LABORATORY TESTS. A USEFUL TOOL NOT ONLY FOR LABORATORIES

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In March 2013, the Greek Ministry of Health appointed a committee in order to compile a list of laboratory tests performed on biological fluids, cells and tissues. The committee was consisted of laboratory specialists (medical doctors and scientists) from all laboratory fields.

The committee based its work on the “list of reagents of the European Diagnostics Manufacturers Association (EDMA)” and after some months presented a list entitled: *Catalog of Uniform Nomenclature and Coding of Laboratory Tests (CUNCLT).*

The CUNCLT includes all the laboratory tests that are performed on biological fluids, cells and tissues and categorizes them into eight main categories:

- Clinical Chemistry-Biochemistry
- Immunochemistry
- Hematology
- Microbiology (cultures)
- Infectious Immunology
- Molecular Biology and Genetics
- Pathology-Cytology
- Immunology

The CUNCLT refers to the nomenclature of the laboratory tests and does not include all the materials (reagents, consumables, solutions, calibrators, controls, equipment, etc.) and software that may be necessary for performing the tests.

The main fields of the CUNCLT are: category code, test code, English name, standard abbreviation, Greek name, alternative name, type of test, comments. Up to now, CUNCLT includes a total of 2,403 tests.

The main effort of the Committee at that time in Greece is the adoption of this coding by all public and private laboratories and laboratory information systems (LIS). At a future time, this coding should be adopted by all State organizations and systems that use or refer to laboratory tests.

LP - 09

DETERMINATION OF PLASMA PHENYLALANINE AND TYROSINE IN PATIENTS WITH PHENYLKETONURIA BY HPLC

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Introduction: Phenylketonuria (PKU), the most common inborn error of amino acid metabolism and the first identified through population-based screening (1, 2), is caused by absent phenylalanine hydroxylase (PAH) enzyme activity (2). As PAH converts phenylalanine (Phe) to tyrosine (Tyr) the absence of this enzyme activity leads to very high levels of Phe in the blood, which constitute the source of symptoms of this disease, since Phe is toxic to the brain (1, 3). Fortunately, PKU may be treated by dietary means; if the treatment is started in the first weeks of life and is well monitored the cerebral damage may be prevented. After 1980 it was found that simultaneous detection of blood Phe and Tyr can reduce the false positive rate in PKU screening (4-6) and that a diet low in Phe and high in Tyr is the best treatment for PKU (7). Consequently, for diagnosing of PKU or monitoring of a diet terapy in PKU patients, repeated determinations of plasma Phe and Tyr are required (8).

Materials and Methods: Our group described first a simple, very sensitive and highly accurate procedure for the determination of plasma Phe concentration (9), then a new procedure for simultaneous determination of Phe and Tyr concentrations was developed (10). The methodology involves two steps: a) separation of plasma, isolation and preparation of a concentrated solution of amino acids (by ion-exchange chromatography and evaporation of the eluate in vacuum at 40^0C), and b) simultaneous determination of Phe and Tyr concentrations by HPLC (high performance liquid chromatography), a very fast analysis.

Results and discussions: We applied the procedure to determine the plasma Phe and Tyr to all children who were detected with hyperphenylalaninemia in the center for PKU screening based in Cluj-Napoca (the center served seven counties from the Nort-West of Romania). In addition the procedure was also used to monitor the plasma Phe and Tyr in children diagnosed with PKU treated by dietary means. The procedure proved to be relatively simple, rather inexpensive, however very sensitive and accurate. The isolation of amino acids from plasma may be performed by personnel with various backgrounds working in clinical laboratories (biologists, chemists, pharmacystc, technicians). HPLC requires adequate equipment and trained personnel, however the procedure developed by our group does not involve special columns for analysis of amino acids.

Conclusions: The methodology described by our group is very adequate for confirming the diagnosis of PKU in patients with neonatal hyperphenylalaninemia and for monitoring the plasma concentrations of Phe and Tyr in patients with PKU (to maintain phenylalaninemia within limits that will not affect the brain). It is now routinely applied in the Laboratory of Genetic Explorations of Cluj County Clinical Emergency Hospital, Cluj-Napoca, Romania.

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LP - 10

ALCOHOL – METABOLISM AND RELATED HEALTH PROBLEMS, POSSIBLE BIOLOGICAL MARKERS FOR ALCOHOL ABUSE

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Toxic effects of ethanol is connected with its amount intake to organism. Alcohol organ injury based on direct effect of ethanol and also on its metabolisms and producing compounds. There are four metabolic pathways of ethanol in human body - alcohol dehydrogenase (ADH), microsomal ethanol oxidizing system (MEOS, CYP2E1), catalase a non-oxidative metabolism. Alcohol abuse is well known for its liver damage. Alcoholic liver injury composes with wide spectrum of different diseases – steatosis, alcoholic hepatitis, alcoholic steatofibrosis/ cirrhosis. The key mechanisms of liver injury are still not clear and we foccused on some of them as gender, genetic polymorphisms, immunologic, metabolic and nutritional factors.

Alcohol consumption and smoking are main factors of cancers in developed countries. The extrapolated data across Europe showed that 10% of all cancers in men and 3% of all cancers in women could be attributed to alcohol consumption. Australian data suggests that alcohol intake accounts for 5% of the total cancer burden of disease. Studies show that the risk of alcohol-related cancers is much higher in people who also smoke.

The alcohol should develop the cancer via several mechanisms. The ethanol per se is solvent for other carcinogens. The first metabolite – acetaldehyde, carcinogen, has mutagenic effect on DNA via formation of DNA adducts, and decreasing the activity of DNA-repair system. Oxidation of ethanol produces the reactive oxygen and nitrogen species with different effects on cells including their transformations, DNA and lipids damage. The changes of folate metabolism, altered methylation of DNA via ethanol and acetaldehyde by different metabolic pathways, reduction of retionic acid influence on cancer development. The mechanism of oestrogen increasing in chronic alcohol consumption is not fully understood, but influence to breast carcinogenesis. The effect of alcohol on cancer is modulated by polymorphisms in genes encoding enzymes for ethanol metabolism (e.g, alcohol dehydrogenases, aldehyde dehydrogenases, and cytochrome P4502E1) and for DNA-repair enzymes. The affection of immune system (e.g. alcohol affects the B cell differentiation via down-regulation of the expression level of transcription factors and cytokine receptors) must be taking into the consideration of cancer development.

The one marker for alcohol addiction is not exist excluding acute intoxication. There are some markers GGT, cabohydrate deficient transferrin (CDT), etyhyl glucuronid which are changed during chronic alcohol consumption as other routine laboratory markers as uric acid, IgA, MCV, lipid profile, etc. CDT is the most suitable

biochemical marker of alcohol abuse in routine practice and combination with basic biochemistry and hematological examination can increase its credibility.

The chronic alcohol consumption is world-wide social-economic problem.

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LP - 11

POTENTIAL RISK PREDICTORS FOR CARDIOVASCULAR DISEASES IN PATIENTS WITH OBSTRUCTIVE SLEEP APNEA SYNDROME

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Background: An association exists between obstructive sleep apnea (OSA) and increased incidence of cardiovascular diseases (CVDs). There is limited and conflicting information in the literature investigating risk predictors for CVDs in OSA. Our aim was to identify potential risk predictors for CVDs in newly diagnosed OSA patients without manifest CVDs.

Methods: 60 OSA patients (13 moderate and 47 severe) diagnosed with polysomnography and 26 healthy volunteers were enrolled into the study. Blood samples were collected after overnight fasting, and plasma ischaemia-modified albumin (IMA), advanced oxidation protein products (AOPP), total oxidative status (TOS), total antioxidative capacity (TAC), copeptin level, myeloperoxidase (MPO) activity and soluble tumor necrosis factor receptor-1 (sTNF-R1) were measured in the patients and controls. Statistical analysis was performed using SPSS Statistics Base 17.0.

Results: Copeptin levels were significantly lower in both moderate and severe OSA patients compared to the controls. Plasma MPO activity, sTNF-R1 levels, plasma TOS and AOPP levels were significantly higher, while TAC levels were significantly lower in the patients compared to the controls. Plasma IMA levels were not statistically different between the patients and controls.

Conclusion: A high systemic oxidative stress in OSA as indicated by increased TOS and decreased TAC levels is reflected by increased AOPP without causing an increase in IMA. Elevated plasma MPO activity and sTNF-R1 levels indicate increased systemic inflammation which might contribute to the higher incidence of CVDs. We recommend measurement of plasma MPO activity, sTNF-R1, TOS, TAC and AOPP levels in the OSA patients as potential risk predictors for CVDs.

LP - 12

PRENATAL SCREENING AND FETAL DNA

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Prenatal testings are essential to give the chance of early medical abortion to the parents of whom having a fetus with serious health problems or enable the treatment of the condition before or after birth. Common testing procedures include serum analyses, ultrasonography including nuchal translucency ultrasound, genetic screening or amniocentesis. Several methods can be used to have an idea about the problems such as chromosome abnormalities, neural tube defects, some genetic diseases (such as sickle cell anemia, thalassemia, cystic fibrosis, muscular dystrophy, and fragile X syndrome) and the birth defects such as spina bifida, cleft palate, etc. The noninvasive nature of the detection of fetal DNA in the maternal circulation represents the greatest advantage over the conventional methods of prenatal diagnosis. The isolation of cell-free fetal DNA from maternal plasma is easy and inexpensive and allows simultaneous processing of many samples. Cell-free DNA was discovered in 1940s and the first studies were usually about its relationship with auto-immune diseases and cancer. But nowadays it is mostly used to detect some possible genetic abnormalities of the fetus by using fetal cell-free DNA circulating in the maternal blood. Additionally, early detection of fetal RhD status is highly useful in gestations of Rh-negative mothers. And besides the importance of detecting many genetic diseases, fetal DNA quantification is also a potential prognostic marker in pre-eclampsia cases. In this part of the conference, prenatal screening tests will be summarized and fetal DNA analysis will be the main subject to be mentioned in comparison with the conventional prenatal screening analyses.

LP - 13

PHARMACOGENOMICS AND PHARMACOMICROBIOMICS IN PRECISION MEDICINE

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The influence of the human genetic make-up on drug response is the main aspect of personalized medicine research, especially in the clinic, leading to the rise of pharmacogenomic approaches to personalized therapy, while pharmacomicrobiomics investigates the effect of variations within the human microbiome on drugs. The microbiome expands the human-associated gene pool by orders of magnitudes, and is more fluid than the human genome. Human-associated microbiota can be partly or fully exchanged and is more evolvable than human cells. The human as a supraorganism is comprised of a relatively stable, inheritable human gene pool which is mostly stable in lifetime and a changeable gene pool, supplied by resident microbiota acquired after birth, whose composition varies with health, time, and hormonal status. Pharmacomicrobiomics, in contrast to pharmacogenomics, investigates multiple levels of variations that may affect personalized therapeutics in complex ways than the human

genome variations. Microbiome variations can be spatial, temporal, seasonal, developmental, hormonal, dietary or drug-dependent within the same individual. The Human Microbiome Project (HMP) a global initiative has been set up to identify and characterize the collection of human-associated microorganisms at multiple anatomic sites (skin, mouth, nose, colon, vagina), and to determine how intra-individual and inter-individual alterations in the microbiome influences human health, immunity, and different disease states. The better-documented effects of the human gut metagenome on drugs are those related to metabolism, either through the alteration of drug metabolism directly by producing enzymes that degrade or activate the drug molecules, by competing with drug molecules over the metabolizing enzymes or by the modulation of expression of human metabolic genes. Taking into consideration the enormously high number of gut-associated microbes, and the large number of diverse genes they encode and pathways they express, understanding the effect of the gut microbiota on human response to drugs is a must to provide a tailored personalized therapy that would be more efficient, cost-effective, and with lower adverse drug events which are expected from pharmacomicrobiomics. In order to introduce clinical markers to be used in tailored treatment in accordance with each patient's resident microbiota where interindividual perturbations are taken into account, profiling the signatures of the microbial communities in relation to their metabolic effect on drugs among patients may be useful approach.

LP - 14

HARMONIZATION IN LABORATORY MEDICINE

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In laboratory medicine, the terms ‘‘standardization’’ and ‘‘harmonization’’ are frequently used interchangeably as the final goal is the same: the equivalence of measurement results among different routine measurement procedures over time and space according to defined analytical and clinical quality specifications. However, the terms define two distinct, albeit closely linked, concepts based on traceability principles. The word ‘‘standardization’’ is used when results for a measurement are equivalent and traceable to the International System of Units (SI) through a high-order primary reference material and/or a reference measurement procedure (RMP).

‘‘Harmonization’’ is generally used when results are equivalent, but neither a high-order primary reference material nor a reference measurement procedure is available. Harmonization is a fundamental aspect of quality in laboratory medicine as its ultimate goal is to improve patient outcomes through the provision of accurate and actionable laboratory information. Patients, clinicians and other healthcare professionals assume that clinical laboratory tests performed by different laboratories at different times on the same sample and specimen can be compared, and that results can be reliably and consistently interpreted. Unfortunately, this is not necessarily the case, because many laboratory test results are still highly variable and poorly standardized and harmonized. Although the initial focus was mainly on harmonizing and standardizing analytical processes and methods, the scope of harmonization now also includes all other aspects of the total testing process (TTP), such as terminology and units, report formats, reference intervals and decision limits as well as tests and test profiles, requests and criteria for interpretation. Several projects and initiatives aiming to improve standardization and harmonization in the testing process are now underway. In particular, the IFFC WG-LEPS (Laboratory errors and patient safety) has proposed a model of quality indicators for evaluating, improving and monitoring the extra analytical phases of the testing cycle. A specific website is available and the data collected allowed us to establish preliminary performance criteria for the extra-analytical phase. Laboratory

professionals should therefore step up their efforts to provide interchangeable and comparable laboratory information in order to ultimately assure better diagnosis andtreatment in patient care.

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LP - 15

THE DIAGNOSTIC ROLE OF HLA GENOTYPING BEYOND TRANSPLANTATION

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The major histocompatibility complex region, named as HLA (human leukocyte antigens) in humans, expresses the highest gene polymorphism in the human genome. This polymorphism is fundamental for the functions of this system which consist principally in the induction and regulation of immune responses and the selection of the T cell repertoire. Population studies have identified a list of more than 100 human diseases that are significantly more common among individuals carrying particular HLA alleles. Most of the significant HLA-disease associations include autoimmune or autoinflammatory diseases (ADs) and both their genetic associations and the relevant pathogenic mechanisms have been extensively studied. However, a given disease may be associated with more than one human leukocyte antigen (HLA) allotype, and a given HLA may be associated with more than one AD. The associations of non-MHC genes with ADs present an additional problem, and the situation is further complicated by the role of other factors, such as age, sex, diet, therapeutic drugs, and other environmental influences. In several ADs such as ankylosing spondyloarthritis, celiac disease, rheumatoid arthritis or type 1 diabetes, the determination of the HLA genotype provides a significant diagnostic help. Since these diseases are strongly associated with particular HLA allotypes, the frequency distribution of these allotypes in different population is also related with the prevalence of these diseases. In this review, we summarize the current knowledge about the mechanisms of HLA associations with the most important ADs with a particular focus at the role of HLA genotyping for the diagnosis of these diseases.

LP – 16

EPIDEMIOLOGIC ANALYSIS OF MYCOBACTERIUM TUBERCULOSIS GENETIC DIVERSITY IN ALBANIA: A FIVE YEAR STUDY

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Introduction: Combination of molecular and classical epidemiology methods is an optimal tool to better understand the correlation of ubiquitous and autochthonous MTBC genotypes with available demographic and epidemiologic characteristics over a five-year period, in Albania.

Methods: *Mycobacterium tuberculosis* complex (MTBC) strains isolated in Albania (n = 655, 1 isolate per patient) between 2006 and 2010 were analyzed by spoligotyping and MIRU-VNTR typing. The data obtained were compared with the SITVIT2 and MIRU VNTR plus database.

Results: The most predominant lineages were Ghana (n = 178, 27,18%), Uganda I (n = 119, 18,17%), Haarlem (n = 117, 17,86%), LAM (n = 41, 6,26%), Ural (n = 38, 5.8%), TUR (n = 28, 4,27%). Evolutionary-recent strains belonging to the Principal Genetic Group (PGG) 2/3 were predominant and represented 554 or 84.58% of all strains. The most prevalent shared international spoligotypes (SIT) were SIT 53 (n = 140, 21.37%), SIT 4(n = 32, 4.89%), SIT 47(n = 32, 4.89%) SIT 613 (n = 32, 4.89%), SIT 42 (n = 28, 4.27%), SIT 52 (n = 26, 3.97%), and SIT 2041 (n = 23, 3.51%). Mean age of patients was 41.74 yrs; 67.18% male, 91.45 % were affected by pulmonary TB, 75.42% were smear positive.

Conclusions:MTBC genetic population in Albania is highly heterogenous. Two new MTBC genotypes will require further molecular characterization since data suggest that they are emergent and involved in recent transmission of TB. Risk factors for clustering of all isolates were gender (males) positive smear and pulmonary form of TB.

LP – 17

NUCLEIC ACID TESTING FOR HIV, HBV AND HCV: BENEFITS AND ALGORITHMS FOR DONOR FOLLOW-UP

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Introduction
Virus screening of blood donations started in the 70s with HBsAg assays followed by anti-HIV and anti-HCV (serological assays) in the 80s and 90s respectively. The common thing among these viruses is that they are able to cause life-threatening infections to the recipients. Furthermore, their infection course may become chronic without lifelong elimination of the virus despite antibody and cytotoxic responses of the immune system. Serological assays may detect the infection a certain time period after the infection event (diagnostic window) during which the virus may be transmitted to recipients of blood products undetected by the serological assays.

More recently, a number of countries decided to introduce nucleic acid amplification technique (NAT) based screening assays in addition to the serological assays in order to reduce this residual risk of window phase transmission and to increase the blood safety.

NAT technique is highly sensitive and specific for viral nucleic acids. It is based on amplification of targeted regions of RNA and DNA and detects them earlier than the other screening methods by narrowing significantly the window period of HIV, HBV and hepatitis C virus (HCV) infections. NAT also adds the benefit of resolving false reactive donations on serological methods which is very important for donor notification, counseling and retention. In table 1 are shown the window periods for NA and serology and sensitivity of the assays in UI/mL.

Table 1 Average values of window periods with NAT and serology

Test	Average window period/days	Sensitivity in UI/mL
HIV-1 ARN (ID-NAT Grifols)	4.5	18.2-25.7
HCV-ARN (ID-NAT Grifols)	2.2	4.5 - 6.7
HBV-AND (ID-NAT Grifols)	16.5	3.0 – 4.1
HBsAg	38	< 0.13
Anti-HCV	60	
HIV Ag/At	16	
Anti-TP	21	

NAT testing results reported from different countries

NAT was introduced in developed countries in the late 1990s and early 2000s. Data from different countries show different NAT yields (donations negative in serology and positive NAT) depending on seroprevalence of TTI in respective donor populations. In a study conducted in United States, it was seen that over a 10-year period, approximately 66 million donations were screened with 32 HIV (1:2 million) and 244 HCV (1:270,000) NAT yield donations identified. HCV prevalence among first time donors decreased by 53% for 2008 compared with 1999 (1). The introduction of HBV NAT in the United States, along with the HBV vaccination policy made a measurable contribution to blood safety and decreased residual risk of HBV infection (2). In United Kingdom, NAT has reduced the risk of HCV by 95% and that of HIV by 10%(3). In a pilot study of 18 months from China, ID-NAT was compared with enzyme immunoassays. It was observed that HBV yield rate in their population was 1:1056 for blood donations (4). In a study from Egypt 5 window period HCV donations were identified among 15,655 1sttime donors (yield 1:3100) (5).

Therefore NAT screening may be more beneficial in countries where the seroprevalence of transfusion transmissible infectious agents is high, as it is the case in most developing countries.

Our country also shows high prevalence of TTI-s in blood donor population.

Since June of this year we have introduced NAT in our routine screening of blood donations.

Epidemiological background of donor population in Albania

Blood donations in Albania come mostly from family replacement donors 68.4%, followed by voluntary non-remunerated blood donors 25% and only 6.6% paid blood donors. Most of our donations (more than 90%) come from first time donors. The prevalence of transfusion transmitted infections in our donor population (data of 2015) is higher than the prevalence among blood donations reported from neighboring countries and this is mostly dedicated to the fact that we depend on first-time donors. Table 2 shows a comparison of the prevalence of TTI in blood donors with serology testing in Albania and neighboring countries.

Table 2 Prevalence of TTI in blood donors in our region

	HBsAg (%)	Anti-HCV (%)	HIV Ag/Ab (%)	Syphilis (%)
Albania	5.3	0.83	0.04	0.21
Kosovo	0.89	0.49	0.006	0.08
Montenegro	0.3	0.3	0.001	0.13
Serbia	0.25	0.21	0.009	
Croatia	0.022	0.021	0.003	0.012
FYROM	1.32	0.53	0.00	

The high prevalence of TTI in our donor population is also dedicated to the fact that we still depend on family replacement donors (about 70% of donations). Our data show that prevalence of infectious agents in voluntary non-remunerated blood donors is significantly lower than in family replacement donors (HBsAg 2.9% vs.5.7%; anti-HCV 0.57% vs. 0.75%) but it still remains high compared to other countries.

Based on this epidemiological situation of our blood donors we introduced NAT in routine testing of blood donation. NAT testing as it was mentioned before has the benefit not only of the reduction of the window period but also of resolving false reactive serology results which is very important for donor counseling and eventually retention of donor.

Results obtained by NAT and serology testing of our blood donations

Testing of blood for infectious agents has been centralized in Albania since 2008 for serology. NBTC Tirana is the only center at national level which tests all blood donations for serology of TTI and since June 2016 is also the only one testing center for NAT HBV/HCV/HIV. According to our recently developed algorithm of testing we have screened by NAT all seronegative donations. We also screened by NAT all seropositive donations for HIV and HCV, in order to confirm them. We excluded from NAT screening HBsAg positive donations, for reducing the testing costs (we have about 1000 positive donations for HBsAg every year). We screened by NAT only HBsAg positive donations with low S/CO level, for confirmation. Total number of donations tested with serology and NAT has been 4552 (voluntary non-remunerated donations 997, family replacement donations 3290 and paid donations 265).

All data obtained are showed in the following tables.

Table 3 NAT results in serology positive donors

Infectious Agent/ Marker	**Serology positive**	**NAT**	
		Positive	**Negative**
HBsAg (low level)	45	25	20
HCV	36	7	29
HIV	5	2	3
ALT	35	1	34
HCV+ALT	1	1	
Total	122	36	86

Table 4 NAT yield in seronegative donations

Seronegative donations	HBV NAT Positive	HCV NAT Positive
4430	23	1
NAT yield in %	1:190	1:4430

Conclusion

Our data show that about 70% of serology positive results are not confirmed by NAT. This means that by attending an accurate algorithm donors might be readmitted for donation. We have just developed an algorithm of follow-up for donors serology positive and NAT negative. Further supplemental/confirmatory testing is needed. Therefore for a better counseling of the blood donor and for a better follow up of him we need to add some other supplemental tests and in the same time we still need to keep our cooperation with the Institute of Public Health for confirmatory testing. We have just developed our testing (Figure 2) and readmission algorithms (Figure1) and we have to attend them accurately with the aim of accurate exclusion for blood safet and in the same time with the aim of not loosing donors which are really very important to us.

Our data also show a very high yield of NAT for HBV and for HCV, but these are only preliminary results that need further confirmation and follow-up with supplemental/confirmatory tests.

We should intensify our efforts for ensuring regular voluntary non-remunerated blood donors as basis for safety and sufficiency.

Figure 1 Readmission of donors with repeatedly reactive serology results

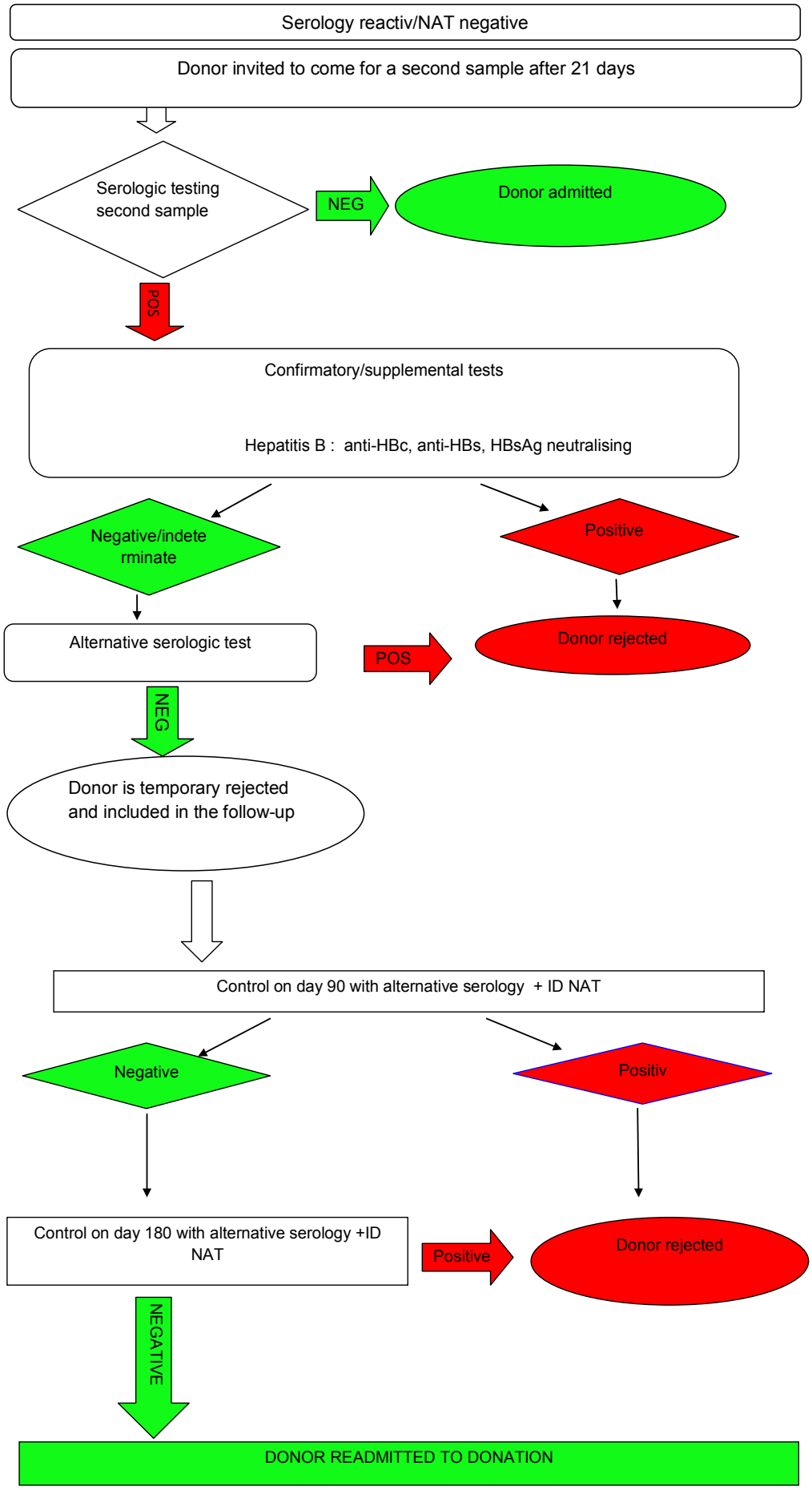
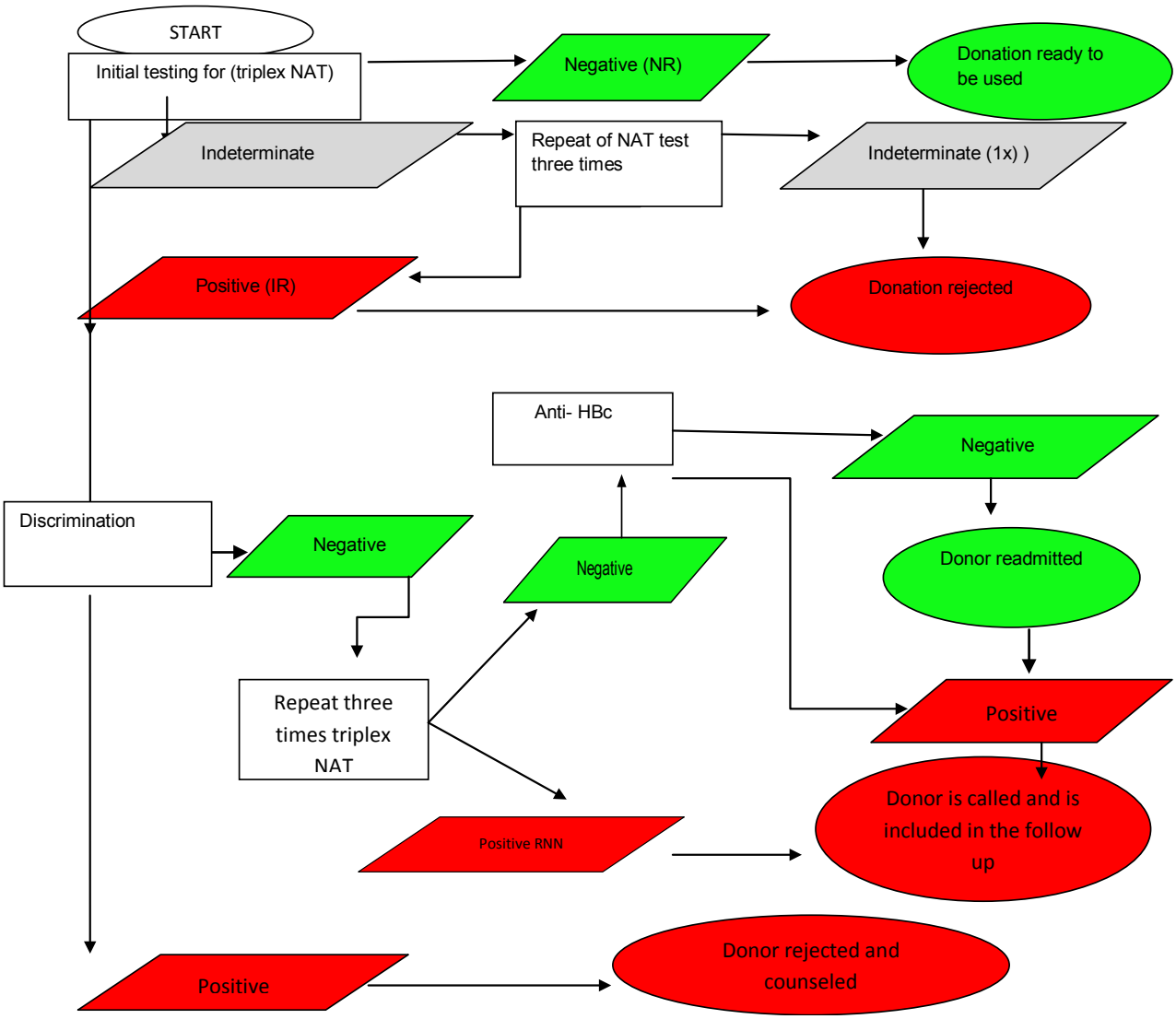


Figure 2 Testing algorithm for NAT HBV/HCV/HIV



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ABSTRACTS
OF ORAL PRESENTATION

OP - 01

LIPOPROTEIN-ASSOCİATED PHOSPHOLİPASE A_2: A NEW MARKER TO DETERMINE CARDIOVASCULAR RISK IN HYPERCHOLESTEROLEMIC DYSLIPIDEMIC CHILDREN

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Background: Inflammation and hypercholesterolemia contribute to atherosclerotic changes which can start in childhood. Children with hyperlipidemia are at high risk for early coronary atherosclerosis. This study evaluates the relation between lipoprotein-associated phospholipase A_2 (Lp-PLA_2), carotid intima-media thickness (CIMT) and flow-mediated dilatation (FMD) in hypercholesterolemic dyslipidemic (HD) children.

Methods: We performed a case-control observational study on patients (2-17 years old, n=43) and aged-matched control subjects (n=24). Fasting blood samples were obtained from both groups for lipid profile (total cholesterol-TC, LDL-C, HDL-C and triglycerides), and Lp-PLA_2 mass measurements. The latter was determined with a turbidimetric immunoassay method (PlacTest, DiaDexus Inc.) applied to an automated analyzer. CIMT and FMD were conducted by a pediatric cardiologist, using high-resolution B-mode ultrasonography.

Results: TC, LDL-C, and Lp-PLA_2 were significantly higher in the patients than in the controls ($p<0.001$for all three parameters). While CIMT values were also significantly higher in the patients compared to the controls ($p=0.001$), FMD values were significantly lower ($p=0.001$). We found positive correlations between Lp-PLA_2 and TC ($r=0.41$, $p=0.001$), Lp-PLA_2 and LDL-C ($r=0.36$, $p=0.004$), Lp-PLA_2 and CIMT ($r=0.44$, $p=0.019$), and LDL-C and CIMT ($r=0.41$, $p=0.032$); there were negative correlations between Lp-PLA_2 and FMD ($r=-0.15$, $p=0.045$), TC and FMD ($r=-0.45$, $p=0.017$), LDL-C and FMD ($r=-0.51$, $p=0.006$), and CIMT and FMD ($r=-0.45$, $p=0.016$).

Conclusion: Lp-PLA_2 levels are significantly elevated in HD children. Given Lp-PLA_2 association with markers of atherosclerosis (TC, LDL-C, CIMT, and FMD), such increased Lp-PLA_2 levels could be used to determine early atherosclerotic changes in HD children and may inform clinical management.

OP - 02

THE ASSOCIATION BETWEEN VASOMOTOR SYMPTOMS WITH METABOLIC SYNDROME, INSULIN RESISTANCE AND TYPE 2 DIABETES IN PERI - AND POSTMENOPAUSAL WOMEN: SYSTEMATIC REVIEW

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Background: Vasomotor symptoms (VMS), including hot flashes and night sweats, are the most frequently reported symptoms by the women in their menopause and beyond. Whether VMS could be associated with metabolic syndrome (MS), type 2 diabetes and insulin resistance (IR) remains unknown.

Aim: To systematically review the association between VMS and metabolic syndrome, type 2 diabetes and insulin resistance.

Methods: A systematic search of studies was performed in EMBASE, MEDLINE, Web-of-science, Scopus, PubMed publisher, Cochrane Library, Google scholar. To identify studies eligible for inclusion, the following criteria were defined: randomized trials, cohort, case-control, and cross-sectional studies investigating the association between VMS, including hot flashes and night sweats, and MS, type 2 diabetes and IR carried out in peri- and postmenopausal women with natural menopause. Methodological quality was assessed using a modified scoring system that was designed with reference to NewCattle Ottawa Assessment Scale.

Results: Overall, 4858 references were initially identified. After screening title and abstract, four studies, of which two cohort studies met the criteria of high methodological quality, were included in the review. The Study of Women's health Across the Nations reporting on the association between VMS and IR found high HOMA index in VMS (none, 1-5 days) relative to no VMS with percentage difference 2.37, and VMS ≥6 days: 5.91 % difference, relative to no VMS. Australian Longitudinal Study of Women's Health reporting on the association between VMS and diabetes found higher odds of having diabetes in those with an early severe VMS, compared with mild VMS (adjusted odds radio, 1.67; 95%CI, 1.20-2.32).

Conclusion: Because of the heterogeneity and the limited number of studies, there is no sufficient evidence on the potential role of VMS and metabolic health. However, both high-quality cohort studies, with large study population and adjustment for multiple confounding variables showed positive associations between VMS and IR and type 2 diabetes. These findings suggest that there is an association between vasomotor symptoms and metabolic health outcomes. To confirm this and to strengthen the evidence, more high quality longitudinal research on this topic is needed.

OP - 03

LABORATORY ANALYSIS IN THE DIAGNOSIS AND MANAGEMENT OF TYPE 1 DIABETES IN KOSOVO

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Background: Multiple laboratory tests are used to diagnose and manage patients with diabetes mellitus. Type 1 diabetes is one of the most common endocrine and metabolic conditions among children and its incidence is rising rapidly, especially among the youngest children.

Aim: To present the diagnostic approach related to Diabetes type 1 in children and adolescents in Kosovo since almost 50% of the global population of children with type 1 diabetes live in the developing world.

Methods: Measurement of glucose, acid base state (pH, bicarbonates, and electrolytes), HbA1c, C-peptide, insulin, autoantibodies (ICA, GADA, IA2), fT4, TSH, AntiTPO, tTg IgA/ IgG, IGa total, urine albumin and genetic testing were addressed

Results: From y. 2010 up to 2015 they were 248 new cases with diabetes type 1 and 4 cases with neonatal diabetes. In the state of DKA they were 70% of new cases and 40% of them in the state of severe DKA. Thyroid autoimmune disease in new cases with diabetes was present in 9 children and Celiac disease in 6 children. After six years with diabetes, thyroid autoimmune disease was present in 19 children and celiac disease in 15 children. The main pancreatic antibody at onset of type 1 diabetes was ICA (Islet cell cytoplasmic autoantibodiesI and then GADA (glutamic acid decarboxylase).

At diagnose the level of glycemia has variation from 15 mmol/l up to 110 mmol/l, and HbA1c at diagnose from 8.5% up to 16.5%. During the first year with diabetes children have variation of HbA1c from 6.0 up to 7% but after one year of diabetes almost 60% of children have HbA1c more than 7.5%. Microalbuminuria was negative in all children with diabetes.

Summary: Type 1 diabetes in children and youth is rising in Kosovo as in many parts of the world. Diagnose in a young child may be delayed or missed because of subtle and misleading symptoms and medical failure to perform basic laboratory testing in a sick child. The measurement of antibody related disease should be performed at diagnose of diabetes type 1 and followed in every two years. Collaboration of clinician and lab professionals is recommended for follow up of patients with diabetes and prevention of complication.

OP - 04

SERUM GALECTIN-3 LEVELS IN PATIENTS WITH DIABETES MELLITUS

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Background: Galectin-3 (Gal-3) is an important modulator of several biological roles. It has been implicated in numerous diseases, particularly in the long-term complications of diabetes because of its ability to bind the advanced glycation products that accumulate in target organs and exert their toxic effects by accelerating proinflammatory and oxidative pathways. Gal-3 deficiency accelerated obesity-induced diabetes and inflammation, as well as beta cell apoptosis. In contrast, beta cell apoptosis was protected in the absence of Gal-3. Galectin-3 is involved in the pathogenesis of diabetic complications via the function of this protein as a receptor for advanced glycation (AGE) and lipoxidation (ALE) end products. Our aim was to investigate serum galectin-3 levels in patients with diabetes mellitus.

Materials and Methods: 41 control, 35 prediabetic, 40 well-controlled, 44 uncontrolled subjects were enrolled to this study. Participants with known systemic diseases, including cardiovascular disease, renal disease, gastrointestinal disease, pulmonary disease, acute infection, chronic inflammation and cancer were excluded. Serum galectin-3 levels were analyzed in Abbott Architect i2000 system.

Resulst: Serum galectin-3 levels were higher in patients with well-controlled diabetes (15.7±4.22 ng/mL) and uncontrolled diabetes (15.6±3.31 ng/mL) compared to control group (13.3±3.42 ng/mL) (p=0.007 and p=0.002, respectively). Although serum galectin-3 levels were higher in prediabetic subjects (14.4±3.57 ng/mL) compared to control group (13.3±3.42 ng/mL), the difference was not statistically significant (p=0.173). In addition to that, there was no statistically significant difference between prediabetes and well-controlled and uncontrolled diabetes (p=0.170 and p=0.131, respectively).

Conclusions: Gal-3 may be an indicator for the early detection of prediabetes and diabetes. According to these study's results, this novel marker may not be considered as a reliable factor for determining the progression from prediabetes to diabetes mellitus.

OP - 05

CONTINUING PROFESSIONAL DEVELOPMENT OF THE HEALTH WORKFORCE IN ALBANIA

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The Continuing Professional Development (CPD) of the health workforce represents an important reform of the Albanian health system in the recent years. CPD has been seen as a quality improvement process that ensures that good doctors and other health professionals remain good and get better. Since 2010, there is an obligatory system of CPD for doctors, dentists and pharmacists, and from January 2016 also for nurses.

According to the approved legislation, all doctors are required to collect 120 Continuing Medical Education (CME) credits, dentists and pharmacists 60 credits, while nurses and midwives 40 credits during the second re-certification program that started in 2015 and lasts four years. In addition to the recertification program, there is also an accreditation system of CME activities that is managed by the National Center of Continuing Education (NCCE).

The up-to-date accomplishments of the implemented reform in the CPD system include: the accreditation of over 2000 CME activities by NCCE, offered to different categories of health professionals, including the accreditation of distance learning activities; the creation of a national web based database of approximately 25000 physicians, dentists and pharmacists and nurses; and registration of all CME credit points to the professionals involved in the re-certification program.

The CPD reform is considered as a successful intervention for the strengthening of capacities of the health workforce. It has noticeably raised the interest of health professionals for CME and has increased awareness about CME quality issues. Additionally, it has significantly contributed to the strengthening of the role of professional associations as leading actors in the CPD system.

However, the new system has to deal with future challenges such as the establishment of sustainable financing mechanisms for continuing education as well as the improvement of effectiveness and quality of CPD.

OP - 06

ACCREDITATION OF MEDICAL LABORATORIES IN ALBANIA

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The General Directorate of Accreditation

The General Directorate of Accreditation (DPA) is the sole national accreditation body recognized by government to assess, against *internationally standards conformity assessment body that provide testing, calibration, certification,inspection in both public and privat sector, in mandatory field or voluntary*

Operational on March 2004, DPA is an public institution under the Ministry of Economic Development, Trade and Entrepreneurship and operates on a not-for-profit basis

DPA fulfils the requirements of ISO/IEC 17011, particularly in terms of independence , impartiality, transparency, competence of its personnel

DPA passed with success the peer evaluation organized by EA and is signatory to the EA-MLA for testing in October 2015.

DPA is full member of EA (European Organization for Accreditation), ILAC (International Organization of Laboratory Accreditation) and IAF (International Accreditation Forum).

Accreditation activities of DPA

DPA accredits against standards set by the International Organization for Standardization (ISO). The applicable standards are as follows:

Testing and Calibration Laboratories:

ISO/IEC 17025:2005 – General requirements for the competence of testing and calibration laboratories – for testing laboratories and calibration laboratories;

Medical Testing Laboratories:

ISO 15189:2012 – Medical Laboratories – Particular requirements for quality and competence - for medical laboratories

Inspection Bodies:

ISO/IEC 17020:2012 – General criteria for the operation of various types of bodies performing inspection – for inspection bodies;

Certification Bodies:

ISO/IEC 17065:2012 – Conformity assessment — Requirements for bodies certifying products, processes and services – for certification bodies providing certification of products;

ISO /IEC 17021:2011) – Conformity assessment - Requirements for bodies providing audit and certification of management systems - for certification bodies providing certification of management systems;

ISO/IEC 17024:2012 - General requirements for bodies operating certification of persons - for certification bodies providing certification of persons

Proficiency Testing

ISO/IEC 17043:2010-Conformity Assessment - General requirements for proficiency testing

History of the Albanian legislation related accreditation of medical labs
DPA provides accreditation according the internationally recognised standard ISO 15189:2012, Medical Laboratories – particular requirements for quality, competence to medical laboratories, and the law no.116/2014 ““On the accreditation of conformity assessment bodies in the Republic of Albania” , approved in September 2014.

The article 5 of law defined that General Directorate of Accreditation is responsible for accreditation of medical laboratory.

First medical laboratory, was accredited in 28.07.2014 according ISO 15189: 2012. Actualy there are three laboratories accredited by DPA, performing examination for biochemistry pathology. They are private, one of them is part of the free check-up program offered by the government.

In total, 52 (54 included the suspended CAB-s) conformity assessment bodies are accredited in Albania:

32 testing laboratories (1 of them is suspended);

3 medical laboratories;

2 calibration laboratories;

11 inspection bodies (one is suspended);

6 certification bodies (3 for management system,

3 for personnel certification)

Accreditation of medical laboratory in Albania is not obligatory.

Accreditation of medical laboratory are granted for a period of 4 years.

For the accreditation process of medical laboratory programme DPA uses a combination of technical experts and medically qualified assessors from other EA Accreditation Bodies, who have significant experience in medical laboratory accreditation.

Actually the number of technical assessor of DPA for medical field is about 3. During 2014 – 2015 DPA has also trained a number of Albanian technical experts in ISO 15189.

The Advantages of Being an Accredited Laboratory

Benefits of Medical Labs Accreditation with DPA:

Enhances the competence & performance capabilities of the Medical labs

Builds the confidence of the customers in the services provided by the Medical Labs;

Creates an environment of healthy competition ;

The credibility of accredited lab adds benefits to the patients, pathologists and the doctors.

It also contributes immensely towards improvement of overall health care system.

OP - 07

IQCP: PRACTICAL IMPLEMENTATION ON VITAMIN D IMMUNOASSAY, ADVENTAGES AND DISADVENTAGES

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Background: IQCP, even though is all inclusive approach for assuring quality, is still nonobligatory in laboratory practice. The purpose of the study is to show the benefits and/or disadvantages of its implementation, by applying it on Vit.D immunoassay. Particular assay was chosen since obtained patients results showed tendencies toward lower values.

Materials and Methods: IQCP was established by setting up a risk assessment, quality control plan and quality assessment. Vit.D was analyzed on Siemens Advia Centaur Systems, in ISO 15189 certificated laboratory. Tested samples were from the routine daily practice, having vit.D test ordered by the referring physicians. QC charts and PT results were obtained and analyzed.

Results: Preliminary evaluation of IQCP didn't show any irregularities in the preanalytical phase. In the analytical phase, although calibrations and QCs were applied as per recommendations, QC charts revealed a repeating negative bias, each time when the calibrations were proceeded few days before recommended change of acid/base chemiluminiscence initiating reagents; but without showing significant postanalytical influence on the obtained results. Detailed study of patients samples revealed that most physicians were sending patients with already present clinical signs of vit.D deficiency, resulting in higher percentage of lower test results.

Conclusions: IQCP gives a detailed insight in performed assay, revealing every step and possible error, which favours it. But in a laboratory conducting a wide spectrum of tests on different instruments, it is a time and personal consuming process. Therefore, is highly recommendable for specific and laborious tests, while the routine can be easily followed by ISO standards.

Key Words: IQCP, Vit.D Immunoassay

OP – 08

ENDOTHELIAL PROGENITOR CELLS (EPCS) COUNT BY MULTOCOLOR FLOW CYTOMETRY

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Endothelial Progenitor Cells (EPCs) are bone marrow-derived cells that can differentiate into mature endothelial cells. Hypoxia, hematopoietic cytokines and granulocyte-macrophage colony-stimulating factor (GM-GSF) induce EPC release. It is known that EPCs are at a place between stem cells and endothelial cells in terms of maturation. EPCs are potential biomarkers of neovascularization, cardiac regeneration, vessel repair and aid in tumor growth, or in monitoring response to treatment. Today, it is being emphasized that EPCs can be considered as an independent risk factor for cardiovascular diseases.

Flow Cytometry (FCM) is accepted as the gold standard for quantification of these cells, which are less in number in the circulation . The advantages of FCM is the ability to perform rapid, automated and repeatable multiparameter analysis at the level of single cell .The Flow cytometry protocol is based on a mononuclear cell analysis for size, nuclear complexity and binding of specific antibodies conjugated to given fluorochromes.

Absolute circulating EPC count was identified in 40 healthy subjects and acute coronary syndrome patients using multicolor flow cytometry with a single-tube panel consisting of CD45, CD31,CD34,CD309 and syto 16 monoclonal antibodies. EPC count significantly lower in the coronary arter syndrome patients as compared to the healthy subjects ($p<0.001$).The method must be standardized and then harmonization studies are required to use this parameter as a prognostic factor in cardiovascular diseases.

OP - 09

BETA 2 MICROGLOBULIN, AS A RISK FACTOR IN CHRONIC HEMODIALYSIS PATIENTS

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Background. Hemodialysis patients are known to be at a high risk for developing cardiovascular disease. Uremia related, non-traditional risk factors, such as inflammation, oxidative stress, dislipidemia, vascular calcification alterations in calcium and phosphorus metabolism, have been proposed to play a central role. Beta2-Microglobulin (β2M) is an independent predictor of outcome for hemodialysis patients and a representative substance of middle molecules. One of factors that can affect β2M is the membrane type of hemodialysis.

The aim of this study is to investigate the association of β2-Microglobulin with inflammation, dislipidemia and mineral disorders in high-flux membrane hemodialysis patients.

Materials and methods: In this study were included 40 patients, undergoing maintenance high-flux membrane hemodialysis treatment, in University Clinical Centre of Prishtina, for a period longer than 6 months. The criteria for patients selection was a high levels of β2-M.

Results: We found negative correlation of β2M with high density lipoprotein (r = -0.73, p <0.001) and albumin (r = -0.53, p <0.001) and positive correlation with triglycerides (r= 0.69, p <0.001), parathyroid hormone (r=0.58, p < 0.05) and phosphorus (r= 0.53, p <0.001). There was no correlation of β2M with C- reactive protein (CRP) and interleukin-6 (IL-6).

Conclusion: In high-flux membrane hemodialysis patients, we observed a significant relationship of β2M with dislipidemia and mineral bone disorders, but there was no correlation with inflammation.

OP - 10

ADVANTAGES OF CERULEIN-INDUCED PANCREATITIS MODEL IN RATS

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The first experimental model of AP was presented by Bernard in 1856 when he injected bile and olive oil into canine pancreatic duct, followed in 1862 by Pannum and in 1895 by Mouret that reported increased vacuole production due to the excessive neural stimulation to the pancreas.

An optimal experimental model of acute pancreatitis should reproduce effectively the etiology, pathophysiology and symptomatology of the disease as in human situation.

Over the years, several experimental animal models have been developed to induce AP.

The aim of this study is to evaluate the advantages that make cerulein-induced pancreatitis model the main favorite model to use. Rats were divided in 2 groups (mild pancreatitis, healthy rats) and were observed over 24 hours. We evaluated histological, biochemical and enzymatic parameters of local and systemic injury in sick rats compare with the control group.

At the end, this model reproduces the majority of pathophysiological events and morphological alternations that have been observed during the early phase of AP in humans.

This method is simple and inexpensive to perform, not invasive and it is very helpful to study local and systemic disease manifestation. This model is useful to study edematous acute pancreatitis, as it allows accurate control of the severity of AP by dosage and timing.

OP - 11

IINFLAMMATION MARKERS IN PATIENTS WITH ALCOHOLIC LIVER DISEASE

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Background: Alcohol consumption may cause excessive cytokine production in the liver, leading to inflammatory alcoholic liver disease (ALD). We aimed to establish the relationship of cytokines and alcohol intake in the development of liver cell necrosis associated with ALD.

Methods: We recruited 160 males divided in five groups: (1) no alcohol intake (< 20 g ethanol/d); (2) low alcohol intake (20-40 g ethanol/day); (3) high alcohol intake (> 40 g ethanol/d) without liver necrosis; (4) high alcohol intake with liver necrosis; (5) high alcohol intake and proven liver cirrhosis. Cytokines (TNF-α, IL-1β, IL-6, IL-10) were analyzed with Immulite 1000® (Siemens). Statistical tests were performed using MedCalc® 12.6.1.0. Baseline characteristics and cytokine values between groups were compared using one-way ANOVA, followed by a post-hoc Tukey-Kramer test. Kolmogorov-Smirnov tests were used to test normality of all parameters before conducting ANOVA tests. Multivariate analysis was used to confirm significant associations independent of other baseline characteristics. All p-values <0.050 were considered statistical significant.

Results: The characteristics of the study population groups were entirely equally randomized between study groups, as was expected. Multiple regression for each cytokine showed no dependency with covariates.
There was no significant difference between all groups for IL-10. IL-1β was significantly higher in the liver cirrhosis group only. TNF-α and IL-6 showed significantly higher values in group 4 and 5 only. For the liver cirrhosis group all measured cytokines were higher, except for IL-10.

Conclusions: Serum cytokine values varied according to level of alcohol intake and liver damage. High alcohol intake without liver necrosis showed no significant rise in cytokine levels. We demonstrated that TNF-α and IL-6 concentrations in alcoholics rise only when liver damage occurs. Contrary to previous publications, we found no elevated IL-10 and IL-1β concentrations when liver damage occurs.

OP - 12

THE IMPORTANCE OF IMMUNOGLOBULIN G N-GLYCANS IN COLORECTAL CANCER

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Introduction: Colorectal cancer (CRC) is a malignant neoplasm of the colon and the rectum. CRC is still associated with poor prognosis, low survival rate and usually relatively late diagnosis.

Aims and objectives: General aim:This research aims to identify IgG N-glycans biomarkers with discriminative power to predict survival in patients with CRC. Specific aim: To analyse IgG N-glycans in 760 patients with CRC and 538 matching controls.

Methods: Using recently developed high-throughput UPLC technology for IgG glycosylation analysis we analysed IgG glycome composition in 760 patients with CRC and 538 matching controls. Furthermore, IgG glycome composition was analysed in 39 plasma samples collected before initial diagnosis of CRC.

Resuslts: When analysing clinical characteristics among patients and matching controls it was found that CRC associates with decrease in IgG

galactosylation, IgG sialylation and increase in core-fucosylation of neutral glycans with concurrent decrease of core fucosylation of sialylated glycans. While a model based on age and sex did not show discriminative power (AUC=0.499), the addition of glycan variables into the model considerably increased the discriminative power of the model (AUC=0.755).

Conclusion: Our findings suggest that genetic factors influencing glycome composition could be explored as risk factors for colorectal cancer. Finally, glyco -modifications might have relevance to tumour immunosurveilance and in predicting response to monoclonal antibodies.Considering the functional relevance of IgG glycosylation for both tumor immunosurveilance and clinical efficacy of therapy with monoclonal antibodies, individual variation in IgG glycosylation may turn out to be important for prediction of disease course or the choice of therapy.

Keywords: Glycosylation, IgG, colorectal cancer (CRC).

OP - 13

OLD AND NEW BONE TURNOVER MARKERS: WHY LOOKING FOR NEW MARKERS

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Bone remodeling is characterized by temporal and spatial coupling of bone formation and resorption that is necessary for normal bone structure maintenance and skeletal growth. A wide range of biochemical markers provide information on bone cells known as bone turnover markers (BTM) which can be divided as markers of bone resorption and formation. The measurement of BTM can reflect either enzymatic activities characteristic of the bone-forming (alkaline phosphatase), or resorbing cells or bone matrix components released into circulation during resorption (collagen type I telopeptides). Although different assays for many markers have been adapted to automated biochemical analyzers making them rapid and cost-effective in clinical laboratories, none of the currently available bone markers have shown to be advantageous over others with regard to their clinical utility. The recent report of Joint Working Group of International Foundation of Osteoporosis (IOF) and International Federation of Clinical Chemistry on Standardization of Bone Turnover Markers recommend; one bone formation marker (serum PINP) and one bone resorption marker (serum CTx) to be measured by standardized assays for the prediction of fracture risk and monitoring of osteoporosis treatment in adults. To addresses the limitations of variability IOF and National Bone Health Alliance have implemented different complimentary activities around the harmonization and the use of all BTMs. However all those traditional BTMs have been used for years to decide the fracture risk prediction and largely for treatment monitoring that show earliere changes following the beginning of treatment allowing useful measurements to be observed about 1 to 3 months. Nowadays there has been a new approach which bases on our understanding of bone physiology. Related with that periostin, cathepsin-K, sclerostin, dickkopf-1, RANKL, FGF-23/klotho/osteocalcin, sfingozine-1-phosphate and microRNAs are considered as new biomarkers. Also the clinical use of those biochemical markers has not been fully established, their relationship with fracture risk has still have question marks and their use as treatment monitoring tools needs to be studied. Why we are working on them, as all those new mentioned markers can tell us about the osteocyte activities and distinguish the bone compartments that they might be helpful for exploring the physiological and pathological links between the bone and other organs, and to monitor systemic diseases.

OP - 14

SERUM TUMOR MARKERS CA 15-3 AND CEA IN BREAST CANCER

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Aim of the study: CA 15-3 and CEA are the markers most widely used for surveillance purposes and monitoring of treatment response in clinical practice. In the study we investigated level of tumor markers in patients with the diagnosis of breast cancer before and after completed surgery during a one year.

Methods: Serial serum values of CA 15-3 and CEA were determined in 60 patients with recurrence after breast cancer. Also, we have control group of 60 subjects with the cut off of tumor markers CEA (0-5 ng/mL) and CA 15-3 (0-31,3 U/mL). The study included 120 women patients who were hospitalized at the Oncology Clinic and laboratory tests were investigated at Institute for Clinical chemistry in University Clinical Centre. The serum concentration of tumor markers CEA and CA 15-3 were measured using chemiluminescence Architect i2000sr (Abbott).

Results: The increase of tumor markers CEA and CA 15-3 is occurring during illness advancing. There is positive correlation between CEA and CA 15-3. Statistical analysis of sensitivity and specifity of tumor markers CEA and CA 15-3 per division healthy/sick respondents have shown us that sensitivity of exament parameters CEA ≈33.1% and CA 15-3 ≈36.7%. Elevated CA 15-3 level was correlated with bone metastasis (P=0.017). However, elevation of CEA was observed regardless of the site of metastasis.

Conclusions: Serum biomarkers such as CA 15-3 or CEA may be used in monitoring therapy in patients with advanced disease receiving systemic therapy.

Keywords: Cancer, Breast, CA 15-3, CEA

OP - 15

OXIDATIVE STRESS STATUS AND LIPID PROFILE DURING PHYSIOLOGICAL NON-COMPLICATED PREGNANCY

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Background: Physiological pregnancy is a condition with increased susceptibility to oxidative stress and altered lipid profile which is characterized by hypertrygliceridemia and hypercholesterolemia.
AIM: The aim of current study was to investigate the changes in oxidative stress status and lipid profile during uncomplicated pregnancy.

Methods: This study has been conducted as a longitudinal study on a group of 43 healthy pregnant women. Additionally, 42 healthy women of reproductive age, but not pregnant, were recruited as controls.
We measured serum thiobarbituric acid-reacting substances (TBARS), lipid hydroperoxide (LOOH), advanced oxidation protein products

(AOPPs), redox balance (PAB), total sulphydryl (SH) groups and superoxide dismutase (SOD) activity by appropriate assays. Also, we measured lipid profile parameters: total cholesterol, triglycerides, low density lipoprotein (LDL), high density lipoprotein (HDL), and lipid indexes.

Results: Our results have shown an increase in oxidative stress parameters during pregnancy compared with the control group, as well as intensification of the growth of the examined parameters as the pregnancy advances. SOD activities were significantly lower until the third trimester when SOD activity significantly increased compared with controls ($p<0.05$) and compared with the first and the second trimester ($p<0,05$).The parameters of lipid profile change in pregnancy towards hyperlipidaemia, the size and structure of HDL and LDL particles change and they become smaller and denser.

Conclusion: Our result have shown that physiologically uncomplicated pregnancy is a condition of increased oxidative stress, suitable antioxidative response, with changed lipid profile towards hyperlipidaemia and potential proatherogenic remodeling of lipoprotein LDL and HDL particles towards smaller and denser particles.

OP – 16

LATE MANIFESTATIONS OF THE WILSON DISEASE, PRESENTATION OF CASE

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Wilson disease is an inborn error associated with abnormal copper metabolism caused by a mutation to the copper-transporting gene ATP7B with excessive copper, which is storage especially in the liver and brain. The manifestations develops usually in the first or second decade of life, exceptionally after the fifth decade of life. Characteristic of the disease is clinical heterogeneity.

Purpose: We report herein a particular case with Wilson disease; the Romanian man aged 60 years treated with chemotherapy to Waldenstrom macroglobulinemia. The disease started with elevation of transaminases and jaundice of skin intensely.

Material and Method: Clinical examination: Jaundice of skin and ocular.

Laboratory testing: we determined the level of total bilirubin, free bilirubin, the transaminases, the ceruloplasmin, serum copper and the amount of copper excreted in the urine in a 24-hour.

Abdominal ultrasonography

Genetic testing: Molecular testing by Real Time PCR with melting curve analysis for ATP7B gene

Results and discussion: Laboratory analysis revealed low ceruloplasmin (15 mg/dl) and serum copper (220 mg/l) concentrations, and increased 24 hour urinary copper (97 mg/day).

ATP7B gene mutation analysis showed homozygous for H1069Q mutation

Abdominal ultrasonography found liver cirrhosis

Based on the clinical observations and correlations with the results of laboratory and the genetic investigations, the diagnosis for patient is Wilson disease.

Conclusions: ATP7B mutation analysis represents an important contribution to clinical practice, to differentiate one hereditary disease of a defect, due to liver aggression.

This presentation sustains the potential of late clinical manifestations of Wilson.

Key words: ATPB7 gene, late clinical manifestation.

OP – 17

PRESENCE OF ANTI-NUCLEAR ANTIBODIES IN PATIENTS WITH HASHIMOTO THYROIDITIS

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Anti-nuclear antibodies (ANA) are present in almost all non-organ specific autoimmune diseases. Hashimoto Thyroiditis represent organ specific autoimmune disorder but some studies shown that there is a lot of associations between autoimmunity conditions. The aim of our study is to investigate presence of ANA in samples from patients with Hashimoto thyroiditis. We test 80 patients with prior diagnosis of Hashimoto. All of them were tested for Rheuma Factor to exclude Rheumatism. We find 33 positive ANA test or 41.2 % of the patients. All patients were younger then 50 years. From this study we can suggest that ANA positivity can occur many years before the onset of non-specific autoimmune disease. Also its important to know that positive ANA is found in arround 10 % of normal population, prospective studies are warranted.

OP - 18

METABOLIC SYNDROME AND BRAIN WHITE MATTER HYPERINTENSITIES IN MYOTONIC DYSTROPHIES

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Background: Myotonic dystrophies type 1 and 2 (DM1 and DM2) affect multiple organs, including the central nervous system. Brain white matter hyperintense lesions (WMHLs) are present in majority of DM1 and DM2 patients and they may lead to the cognitive and behavioral impairments. The cause of WMHLs is not known.

Aim: To analyze association between metabolic syndrome (MetS) and WMHLs in patients with DM1 and DM2.

Method: Study comprised 51 DM1 and 25 DM2 genetically confirmed patients. MetS was diagnosed in accordance with the 2009 Joint Criteria. Brain magnetic resonance imaging (MRI) was performed on 1.5T equipment. WMHLs load was analyzed using the Fazekas scale and Age Related White Matter Changes scale (ARWMC).

Results: WMHLs were found in 84% of DM1 and 64% of DM2 patients. In DM1 subjects, the load was higher in the periventricular than in the deep white matter (1.2 ± 0.6 vs. 0.9 ± 0.7, $p<0.01$), and the most affected lobes were temporal and frontal. In DM2 patients, the load was also higher in the periventricular than in the deep white matter (1.0 ± 0.7 vs. 0.8 ± 1.0, $p<0.01$), and the most affected lobes were frontal, parietal and temporal. DM1 patients with MetS had higher WMHLs load in the deep white matter (1.2 ± 0.7 vs. 0.7 ± 0.6, $p<0.05$). On the other hand, DM2 patients with MetS had higher ARWMC score in the right temporal lobe (0.9 ± 0.3 vs. 0.2 ± 0.4, $p<0.05$). Age was a significant predictor of the higher WMHLs load in both DM1 and DM2 patients.

Conclusion: Our results suggest that the treatment of MetS may potentially slow down progression of the WMHLs and consecutive cognitive and behavioral impairments. This is of special interest since DM1 and DM2 are disorders with no causal therapy so far.

Key words: myotonic dystrophy type 1, myotonic dystrophy type 2, white matter hyperintense lesions, metabolic syndrome

OP - 19

PROSPECTIVE AND COMPARATIVE CLINICAL STUDY OF BLOOD RISK FACTORS IN PATIENTS WITH ALLERGIC ASTHMA ON IMMUNOTHERAPY

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Background: The prevalence and development of allergic asthma is on the increase, and the clinical outcome and risk factors of immunotherapy in the treatment of allergyare not well established.

Aim: To investigate blood serum risk factors following immunotherapy in the treatment of allergic asthma, serum IL-3, -11 and IgE levels and blood eosinophil and neutrophil counts at every trimester during a 1-year follow up in patients with allergic asthma on immunotherapy and those on anti-asthmatic drugs only.

Methods: 60 patients of both gender with allergic asthma in prospective and comparative clinical study were divided into two treatment groups: 30 patients received immunotherapy and 30 patients treated with only standard anti-asthmatic drugs. The inclusion criteria were: clinical diagnosis of allergic asthma, age between 15 and 30 years, and both sexes. The exclusion criteria were: presence of other acute and chronic diseases of respiratory airways, presence of other allergic diseases (skin allergies, nutritive allergies etc.), and the presence of acute and chronic diseases of other organic systems. Patient's blood and serum were used to assess the levels of IL3, -11 and IgE levels and blood eosinophil and neutrophil counts at every trimester during a 1year follow up. Presence of asthma, pulmonary function, skin prick test reactivity, total serum IgE and bronchial responsiveness to inhaled histamine were measured using standard techniques. Diagnosis of bronchial asthma was established based on clinical history of recurrent wheezing, breathlessness, or cough (GINA) associated with significant reversibility of FEV1 (>15% from baseline) after inhalation of 400ìg salbutamol when baseline was <80% as predicted in addition to positive skin tests and increased serum IgElevels. FEV1 was measured during

exacerbations of asthma symptoms in patients with viral infections every trimester (first to fourth) one year period of time.

Results:Serum IL3 level was significantly higher in patients with allergic asthma treated with immunotherapy only during 3rd and 4th trimester while serum IL11 level was significantly higher in patients with allergic asthma treated with immunotherapy at the 1st, and 4th trimester. Patients treated with specific immunotherapy have significantly higher blood eosinophil counts only at 3rd trimester, while the neutrophil counts were significantly lower at 3rd and 4th trimester. The median serum IgE levels between immunotherapy and control groups was not significantly different during the 1st, 2ndand 4th trimester.

Conclusions: Even this prospective and comparative clinical study indicated thatallergen

specific immunotherapy has no influence on standard chemistry and haematology laboratory parameters (Eosinophils,Neutrophils and total IgE), we have recorded increased trend toward trimesters for IL3 and IL11 in our patients treated with specific immunotherapy

OP - 20

THE PREVALENCE OF DNA-VIRAL INFECTION IN KIDNEY TRANSPLANT RECIPIENT

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Aims: Cytomegalovirus (CMV) is a human virus from the Herpesviridae family, a β-Herpesvirus, with a double strand of DNA . The seroprevalence is 70 to 90% of the adult population1. After the first infection, the presence of the virus may be identified in such as in solid organ transplants. CMV infection is the primary infectious complication in kidney transplantation, and it is one reason for high morbidity and mortality rates2.

Epstein-Barr virus (EBV) is a ubiquitous herpesvirus, which infects3 most of the population. In transplant recipients, whose cellular and humoral immune response is suppressed by immunosuppressive therapy, EBV infection may constitute a serious risk4.

BK virus (BKV) is a polyomavirus with a circular DNA. Infection with BKV 5occurs during childhood, with a prevalence in adults from 60% to 100%. Following primary infection, BKV 6 remains latent in the kidneys and can be reactivated and can be the reason for complication in kidney transplantation, and it is one reason for high morbidity and mortality rates.

Methods: This study was performed on 85 adult kidney transplant recipients, who had their transplant during the period from September 2010 to January 2015. From each of the patients were taken 5 ml whole blood in a gel tube. Viral DNA from clinical sample was extracted using Bioneer Exiprep 16TM system. Clinical specimens were screened for CMV – DNA, EBV –DNA and BKV – DNA by using a Bioneer AccuPower® quantitative RT – PCR Diagnostic Kits.

Each of the patients was monitored for viral load after kidney transplant: after the first week, after 3 month, after 6 month for CMV, EBV, and BKV.

Results: Among 85 patients, CMV viremia was present in 3 patients, 1 of them had graft failure and 2 other were dead.

EBV viremia was not present in none of the transplanted patients. And for BKV viremia was present in 4 patients, and only 2 of them had graft failure.

Conclusion: In this study, we demonstrated the importance of risk factors as D/R report, antiviral therapy, immunosuppression therapy to CMV and BKV replication on the kidney transplant patients.

Important to be noted in our study is how we succeed with prevented risk factors for EBV replication.

Keywords: CMV, EBV, BKV, kidney transplant, graft.

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ABSTRACTS OF POSTER PRESENTATIONS

PP – TH – 001

THE ROLE OF NT-PROBNP IN THE DIAGNOSIS OF PRECLINICAL DIASTOLIC DYSFUNCTION IN TYPE 2 DIABETIC MELLITUS PATIENTS

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Background: NT-proBNP is investigated as a possible non-invasive parameter of left ventricular diastolic heart failure but, its role in preclinical diastolic dysfunction (pDD) is unclear.

Purpose: The aim of this study was to assess the role of NT-proBNP in detecting pDD in type 2 diabetes mellitus (T2DM) patients (pts).

Methods: 150 T2DM pts (56.3±7.6 years, 48% male) without evident heart disease and 43 age and sex–matched normal controls (54.5±6.2 years, 46.5% male) were enrolled in our study. Left ventricular diastolic function was assessed with conventional Doppler and tissue Doppler echocardiography. NT-proBNP plasmatic levels were measured in all patients.

Results: The median of NTproBNP levels were (92.8±11.6 pg/ml). NT-proBNP in pts with diastolic dysfunction (DD) was significantly higher than in pts with normal diastolic function (DF), (134.1±144.8 vs. 48.4±36 pg/ml, p<0.001) but there was no significant difference between pts with mild DD and pts with normal DF (87.3±81.9 vs. 51.4 ±36, p= ns). The ROC curve demonstrated a sensitivity of 70.54, a sensibility of 74.26% and an accuracy of 72.3% for NT-proBNP level of 58 pg/ml to predict pDD. The logistic stepwise regression analysis confirmed NT-proBNP as an independent predictor of DD (OR 2.71; CI 1.1-6.39; p=0.023).

Conclusion: NTproBNP can be used to predict preclinical diastolic dysfunction in diabetic pts but, it was not able to detect mild degree of DD.

PP – TH – 002

PROBNP TESTING IN HEART FAILURE PATIENTS USING SACUBITRIL/VALSARTAN

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Aim: BNP are well-known to detect, diagnose and evaluate severity of HF1. ProBNP is considered gold standard from ACCF and AHA1.Sacubitril/ Valsartan is made up of neprilysin inhibitor and

ARB. ProBNP measurement should be used with this therapy; levels might reflect the effects of the drug on the functioning of the heart.

Methods: The study was performed in 10 HF patients, in ambulatory services in Tirana, were first treated with Sacubitril/Valsartan. Each of them was monitored with proBNP before starting treatment, each 4 weeks when increasing dose of Sacubitril/Valsartan.

20% were female, 80% were male. They were NYHA III-IV, treated previously for HF, were switch to one of the ARNI. The patients were followed with proBNP & their clinical evaluation.

Results: 9 out 10 did have high levels of proBNP. 8 out 10 did increase the therapy each 4 weeks ,from 50 mg bid, 100 mg bid, 200 mg bid, 2 out of 10 did not increase to 200 mg bid, cause it were observed high levels of creatinemia and GFR. ProBNP levels were decrease in all patients after 4- 8 weeks of treatment (50 mg x 2 & 100mg x 2) with an average at about -20% , after 12 weeks of treatment the levels were decreased with an average at about -10.2%. All patients did refer improvement of clinical status.

Conclusion: Taking into account the complexity of the NP system and the diversity of HF status it remains open as to whether NT-proBNP alone should be used in order to fully understand the HF.

In this study, we demonstrated the importance of proBNP monitoring Sacubitril/Valsartan, while increasing dose of therapy proBNP was decreased.

PP – TH – 003

B-TYPE NATRIURETIC PEPTIDE INDEPENDENTLY PREDICTS IN-HOSPITAL MORTALITY IN PATIENTS WITH ST-SEGMENT ELEVATION MYOCARDIAL INFARCTION TREATED BY PRIMARY PERCUTANEOUS CORONARY INTERVENTION

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Background: B-type natriuretic peptides (BNP) have been suggested as predictors of risk in patients with ST-segment elevation myocardial infarction (STEMI) treated by primary percutaneous coronary intervention (PCI). The aim of this study was to determine whether BNP is predictor of in-hospital mortality in patients with STEMI treated by primary PCI.

Methods: This study consisted of 100 patients with STEMI underwent primary PCI within 12 hours of the chest pain onset. BNP level was measured 24h after admission. The Receiver Operating Characteristic analysis was performed to identify the most useful BNP cut-off level for the prediction of in-hospital mortality. The patients were divided into two groups according to the cut-off BNP: high risk group (BNP ≥ 206.6 pg/mL, n=31) and low risk group (BNP < 206.6 pg/mL, n=69). The primary end point was in-hospital mortality.

Results: Patients in high risk group were older (62,26 ± 8,85 years vs. 55,28 ± 9,87 years, p=0.001) and had lower left ventricular ejection fraction (46.45 ± 8.96% vs. 51.22 ± 8.72%, p=0.014) and higher levels of BNP (495,0 (250,00-1096,00) pg/mL vs. 96.64 (44,05-130.86) pg/mL, P<0.001) than patients in low risk group. The incidence of in-hospital mortality was 22.6 % in high risk group, while in the low risk group it was 1.4 (p<0.001). Multiple logistic regression analysis identified BNP (OR 2.978, 95 % CI 1.669 -5.314, <0,001) as an independent predictors of in-hospital mortality.

Conclusions: BNP is independent predictor of in-hospital mortality in patients with STEMI treated by primary PCI.

PP – TH – 004

LEFT VENTRICULAR FAILURE EVALUATED BY NT PROBNP AND SERUM HEPCIDIN IN THALASSEMIA PATIENTS

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Systemic administration of blood transfusions is the reason for the growing number of adults with congenital anemias and iron overload. Iron overload leads to storage in many tissues, especially the liver, brain, heart and endocrine glands. The accumulation of iron in the myocardium leads to diastolic dysfunction, arrhythmias and cardiomyopathy.

We evaluated 68 thalassemia patients for hepcidin, iron and NT proBNP. We used immunological CLIA (Chemiluminescence immuno assay) method for quantification of serum NT proBNP concentrations (for evaluation of left ventricular failure in patients with thalassemia. For description of significance and correlations between parameters we used statistical methods.

In thalassemia patients we found correlation between serum hepcidin and NT proBNP, an indicator of left ventricular dysfunction ($r = -0.818$, $P < 0.005$). NT proBNP concentrations in patients with thalassemia (257.8 ± 31.7 pg/mL) were increased in comparison to controls included, which confirms left ventricular failure, $P < 0.001$. We found a statistically significant reduction in serum levels of hepcidin in thalassemia cases (1.3 ± 0.7 µg/L; $P < 0.001$).

The found serum hepcidin is due to the nature of iron overload in the organism, resulting from frequent blood transfusions in this disease. High levels of iron lead to suppression of hepcidin secretion. This leads to the condition for deposition of iron in cardiomyocytes, which, in turn, leads to the development of cardiomyopathy, associated with increased serum levels of NT proBNP.

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PP – TH – 005

ANTICARDIOLIPIN AND ANTINUCLEAR ANTIBODIES AS POSSIBLE MARKERS FOR CORONARY ARTERY DISEASE IN YOUNG ALBANIAN PATIENTS TREATED WITH MYOCARDIAL REVASCULARIZATION PROCEDURES

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Introduction: Coronary artery disease(CAD) is a major cause of morbidity among young patients and the influence of anticardiolipin and antinuclear antibodies on atherosclerosis development is widely reported.

The aim of our study is to evaluate the role of these antibodies in the etiology of CAD among young Albanian patients treated with myocardial revascularization procedures.

Methods: This is a case-series study, enrolling Albanian patients younger than 50 years with CAD who underwent myocardial revascularization, from January 2016(ongoing). Serum levels of anticardiolipin and antinuclear(ANA) antibodies were tested.

Results: During the first six months, we can report 9 patients, mean age 37.5±10.5 years presented with CAD, 6(66%) treated with primary PCI, 2(22%) with CABG and 1 treated with reteplase. The serum levels of antiocardiolipin(IgM class) were in 7(77%) at suspected levels 22±0.5. 1 patient with very high levels of ACA(IgM)>105, presented with stent thrombosis and a clot on left main. ANA was positive + at 66%, ++ at 22% and +++ at one patient. Levels of the anticardiolipin and antinuclear antibodies were significantly higher in CAD patients when compared to healthy controls($P<0.05$).

Conclusion: Among relatively young Albanian patients with CAD, treated with myocardial revascularisation the levels of ACA were significantly higher compared to the group without CAD. We can report the presence of clot on left main and repeated stent thrombosis at the patient with the maximal levels of ACA, but an association has to be proved. However this study suggests that ACA and ANA play an important role in atheroschlerotic plaque formation and its progression.

PP – TH – 006

HYPERHOMOCYSTEINEMIA IN PATIENTS WITH DEEP VEIN THROMBOSIS

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The aim: To determine the concentration of the total homocysteine (tHcy) and the lipid risk factors: total cholesterol (TC), HDL-cholesterol (HDL-C), LDL-cholesterol (LDL-C) and triglycerides (TG) in serum of patients with deep vein thrombosis (DVT) and healthy subjects, as well as, to investigate the correlatioion between tHcy and lipid parameters in the set two groups of subjects

Material and methods: The investigation included 80 patients with DVT and 80 healthy subjects divided by gender. The concentration of tHcy is determined by the spectrophotometric cyclic enzymatic method. TC and TG and HDL-C were determined by standardized and routine enzymatic methods; LDL-C was calculated by the mathematical Friedewald-'s formula.

Results: The concentrations of tHcy were statistically significant higher in men (15,4 ± 4,0 μmol/L vs. 11.1±5.0 μmol/L) and women with DVT (14,8 ± 3.16 μmol/L vs. 8.0±4.6 μmol/L) compared to the control ($p<0.001$). The levels of lipids were statistically significant higher while HDL-C was statistically significant lower in patients compared to the control group. There were positive correlations between tHcy and TC, TG and LDL-C, and negative correlation between tHcy and HDL-C in men with DVT.

Conclusion: Concentration of total homocysteine in patients with deep vein thrombosis was statistically significantly increased in comparison with healthy subjects, also and lipid parameters. In male with DVT is found a positive correlation between tHcy and TC, LDL-C and triglycerides, and a negative between tHcy and HDL-C.

PP – TH – 007

HIPERHOMOCYSTEINEMIA AND THE STAGE OF CORONARY ARTERY DISEASE

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Numerous studies have shown a relationship between hiperhomocysteinemia and cardiovascular mortality, but, this association and extend of coronary artery disease, CAD, remains controversial.

The aim of the study was to establish if there is correlation between homocysteine (tHcy) levels with occurrence and development of CAD.

Total number of 165 patients were examined which were divided into 3 groups based on 10 years risk for CAD established according ATP III and Framingham criteria: high risk group consist 60 patients with CAD risk above 20%; group of 49 patients with angiographycally proven CAD and 56 patients, control group, with CAD risk less than 10%. All patients were evaluated for the following risk factors and markers: sex, age, smoking status, hypertension, family history of CAD, lipids, lipoproteins, glucose, white blood cells, urea and creatine.

Mean plasma tHcy levels in high risk group were 16.0 micromole/L ($p<0.04$), in the group with CAD, 15.3 micromole/L respectively ($p<0.02$) vs. control (13.0 micromole/L). There was correlation between tHcy and total CAD risk ($p<0.04$) and white blood cells count (0.02) in high risk group. In the group with CAD, tHcy correlated with the frequency of high grade of coronary artery stenos is, >95% of arterial lumen (0.04).

We concluded that elevated tHcy correlated with the total CAD risk and the stage of coronary artery disease.

PP – TH – 008

EVALUATION OF MEAN PLATELET VOLUME (MPV) IN PATIENTS WITH ACUTE CORONARY SYNDROME

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Background: The mean platelet volume (MPV), a reliable indicator of platelet size, might associate with cardiac Troponin (cTnI) in ACS.

Objectives: The aim of this study is to investigate the association between mean platelet volume and measurements of Troponin I (cTnI) in patients with suspected diagnosis of ACS. Furthermore, this study will evaluate the diagnostic accuracy of MPV in diagnostic workup of ACS.

Materials and Methods: We compared MPV and Troponin I values of 119 patients admitted at emergency department of Hygeia Hospital Tirana with chest pain suggestive of ACS. 69 patients were diagnosed with AMI based on the rise of Troponin I, ECG changes and abnormal coronary angiography, whereas 50 patients resulted negative in all of the above criteria and were categorized in the control group.

Statistical studies were carried out using MedCalc Statistical Software. A comparison of non-parametric values between groups was performed using Mann-Whitney U-test. A nominal significance was taken as a two-tailed □-value < 0.05. The diagnostic accuracy of MPV for diagnosing ACS was calculated by receiver operating characteristic curve.

Results: The patients in Troponin positive group had higher mean MPV values than the control group with normal cardiac Troponin I levels (10.89 ±1.11 vs 8.92 ± 1.14 fl with p< 0.0001). Specificity, sensitivity and cut-off value of MPV for diagnosing ACS was 94.2%, 72% and >9.4 fl respectively.

Conclusion: MPV is a simple laboratory test which can be measured in association with other laboratory biomarkers in stratifying the risk for ACS.

PP – TH – 009

PLATELET/LYMPHOCYTE RATIO IN PATIENTS WITH MYOCARDIAL INFARCTUS

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Aim: Platelets play a central role in atherothrombosis and the platelet count is significantly related with elevated risk of mortality after myocardial infarction. Platelet-to-lymphocyte ratio (PLR) which can be calculated from the whole blood count is a sensitive index presenting a systemic inflammatory response that combines prognostic values of a subject's platelet and lymphocyte count. The aim of this study was to investigate the platelet/lymphocyte ratio in patients with myocardial infarctus.

Methods: Whole blood samples were collected from 50 healthy control and 50 patients with myocardial infarctus. The mean age for controls and patients were 51.1±4.8 and 52.7±8.6 respectively. Patients with chronic disease and inflammatory disorders were excluded. Platelet and lymphocyte counts were analyzed with Abbott Cell Dyne heamotolgy analyzer. Statistical analysis was performed with IBM SPSS v20.

Results: Platelet counts were lower but not statistically significant in patients with myocardial infarctus compared to control group (247.1±69.3 vs 260±73.8) (p=0.508). Lymphocyte counts were higher but not statistically significant in patients with myocardial infarctus compared to control group (2.54±1.1 vs 2.47±0.6) (p=0.831). Platelet/Lymphocyte ratio was statistically higher but not statistically significant in patients with myocardial infarctus compared to control group (115.4±59.5 vs 112.6±42.3) (p=0.807).

Conclusions: PLR can be easily calculated and is universally available marker, which should be implemented into the clinical practice. The platelet to lymphocyte ratio (PLR) was introduced as a potential marker to determine inflammation in cardiac diseases.

PP – TH – 010

NON-INFECTIVE ENDOCARDITIS IN A PATIENT WITH FEVER

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Introduction: Libman Sacks endocarditis (LSE) is present in 1 on every 10 patients with systemic lupus erythematosus (SLE). The diagnosis of LSE becomes challenging in differentiating it from infective endocarditis (IE).

Case: This is a 16 year old female who presents with fever and dyspnea. She presented increased CVP, tachycardia, temperature 38.8°C, BP150/90mmHg, a grade V/VI pansystolic mitral murmur. 3 pairs of blood culture samples resulted negative. The patient's laboratory work up revealed high creatinine levels, proteinuria, abnormal LFTs, hemolytic anemia, thrombocytopenia, WBC 10900,CRP 33,8g/L, positive antinuclear antibody, anti-dsDNA, anti-ENA screen and slightly depressed serum complement levels. According to the diagnostic criteria, the diagnosis of SLE was made and the patient started treatment with methylprednisolone and cyclophosphamide. A transthoracic echo revealed: diffuse infiltration of anterior mitral leaflet and a nodular thickening on it, severe mitral regurgitation and concentric hypertrophy of LV. Considering a possible IE, elevated CRP and WBC levels, ampicillin and gentamycin for 2 weeks was added. As the urea and creatinine levels raised up and the patient became oliguric; hemodialysis was started.

Discussion: 3 laboratory data are important to distinguish IE from LSE: white blood cell count, CRP and blood cultures .

Conclusion: Patients with SLE will be more likely to develop cardiac manifestations of lupus, such as valvular regurgitation and possible LSE.

PP – TH – 011

PREVALENCE OF MICROALBUMINURIA IN HYPERTENSIVE PATIENTS WITH OR WITHOUT DIABETES MELLITUS TYPE 2

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Introduction: Microalbuminuria is an independent risk factor to develop cardiovascular and cerebrovascular diseases. In patients with essential hypertension with or without diabetes mellitus, microalbuminuria has a major impact on cardiovascular risk. The aim of this study was to find out the prevalence of microalbuminuria in patients with essential hypertension with or without diabetes mellitus type2.

Methods: This cross-sectional study included 106 subjects selected from primary care units. All subjects were divided into three groups: first group - 40 hypertensive patients without diabetes mellitus type 2 (female subjects n=25; male subjects n=15), second group - 36 hypertensive patients with diabetes mellitus type2 (females n=20 and males n=16) and 30 healthy subjects as control group (female subjects n=20; male subjects n=10). The average duration of hypertensive disease was 5, 6±3, 4 years. As material we used morning urine samples and blood. The urinary microalbumin was calculated

in terms of ratio with respect to urinary creatinine and expressed as microalbumin/ creatinine ratio (mg/g). Microalbumin was measured by immunoturbidimetric method, urinary creatinine concentration was measured by photometric method. Other biochemical variables were measured and Body mass index (BMI).

Results: The prevalence of microalbuminuria was significantly higher patients 29 (38.15%) than in healthy subjects 4 (13.33%) ($p<0.05$). The prevalence of microalbuminuria was 38.88% in the second group and 47.5% in the first group but there was no significant differences in prevalence of microalbuminuria between these groups ($p>0.05$). There was no significant differences between male and female subjects in all three groups in the prevalence of microalbuminuria (48.27% of male and 51.72% of female patients had microalbuminuria ($p>0.05$). There was a trend towards increased levels of cardiovascular risk factors (total cholesterol, triglycerides, HDL, LDL, Body mass index) among subjects who had microalbuminuria.

Conclusion: Detecting microalbuminuria in patients with essential hypertension with or without diabetes mellitus type 2 is an important screening tool to identify high risk for cardiovascular events.

PP – TH – 012

THE RELATIONSHIP BETWEEN GLYCAEMIC CONTROL AND PRECLINICAL DIASTOLIC DYSFUNCTION IN PATIENTS WITH TYPE 2 DIABETES MELLITUS OR PREDIABETES

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Background: Type 2 diabetes mellitus (T2DM) is associated with an increased risk of micro and macrovascular complications. The relationship between heart failure and glycaemic control is not well established.

Purpose: The aim of this study was to assess relationship between DD and HbA1c in patients (pts) with T2DM or prediabetes (PD) with preserved systolic function (left ventricular ejection fraction ≥ 55%), asymptomatic for heart failure and without overt heart disease.

Methods: 170 diabetics or prediabetic pts (57.8 ± 8.3 years, 52% male) without evident heart disease, and 43 age and sex–matched control subjects were enrolled. Conventional echocardiography, tissue Doppler parameters and HbA1c were measured for all pts.

Results: In pts with good glycaemic control (HbA1c 7-7.9%) the risk of DD was 3.6 fold higher (95% CI, 1.03-12.5; p= 0.044) compared with pts with tight glycaemic control (HbA1c <7%); in pts with poor glycemic control (HbA1c ≥ 8-8.9%) the risk of DD was 5.9 fold higher (95% CI, 1.79-19.57; p=0.004), and in pts with HbA1c ≥9% this risk was 8.2 fold higher (95% CI, 2.70-25.25; p<0.001). The risk of DD increased by 41.2 % for 1% increase of HbA1c.

Conclusion: Our findings support idea that glycaemic control is strongly related with preclinical DD in patients with T2DM or PD.

PP – TH – 013

SERUM ASYMMETRIC DIMETHYL ARGININE LEVELS IN PATIENTS WITH DIABETES MELLITUS

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Aim: Asymmetric dimethylarginine (ADMA) is an endogenous competitive inhibitor of endothelial NOS and it can affect NO production. Uncontrolled blood pressure and hyperglycemia seem to be significantly involved in the development process of cardiovascular disease in patients with type 2 diabetes. since diabetic vascular disease is related to diminished NO bioavailability, ADMA may be an important factor in pathogenesis. Our aim was to investigate serum ADMA levels in patients with diabetes mellitus.

Methods: 41 control, 35 prediabetic, 40 well-controlled, 44 uncontrolled subjects were enrolled to this study. Participants with known systemic diseases, including cardiovascular disease, renal disease, gastrointestinal disease, pulmonary disease, acute infection, chronic inflammation and cancer were excluded. Serum ADMA levels were analyzed with API 3200 ABSCIEX LC-MS/MS system.

Results: Serum ADMA levels were significantly higher in patients with uncontrolled diabetes [0.82 (0.23-2.80 µmol/L)] compared to control [0.63 (0.13-1,36 µmol/L)] and prediabetic groups [0.53 (0.17-2.14 µmol/L)] (p=0.01 and p=0.03, respectively). Although serum ADMA levels were higher in uncontrolled diabetes group [0.82 (0.23-2.80 µmol/L)] compared to controlled diabetes group [0.56 (0.23-2.06 µmol/L)], the difference was not statistically significant (p=0.107).

Conclusion: The size of this contribution must be confirmed in prospective observational and intervention studies. According to these study's results, this novel marker may be considered as a reliable factor for determining the transition from healthy condition to diabetes mellitus.

PP – TH – 014

A RETROSPECTIVE STUDY: LIPID PROFILES IN GESTATIONAL DIABETIC INDIVIDUALS WITH E23K POLYMORPHISM IN KCNJ11 GENE

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Aim of the study: The KCNJ11 gene known as a key in insulin secretion and is a substantial candidate gene for Type 2 Diabetes Mellitus (T2DM). E23K mutation in KCNJ11 gene increases the risk of T2DM and also considered to be associated with Gestational diabetes mellitus (GDM). Seen from this aspect, to investigate the relations between E23K polymorphism in KCJN11 gene and lipid status in pregnant with GDM and healthy pregnant is aimed as an evaluation of retrospective data.

Methods: 106 pregnant (24-28 gestational weeks) individuals who were admitted to Selcuk University Faculty of Medicine, Endocrinology Polyclinic were included into the present study.

Triglyceride, cholesterol, HDL-cholesterol and LDL-cholesterol levels of 61 GDM patients and 45 healthy pregnant, who had E23K polymorphism genotyped at KCJN11 gene, were evaluated. GDM individuals were defined as “Patients group” and healthy pregnant were defined as “Control group”. A p value ≤ 0.05 was considered statistically significant.

Results: We did not determine significant relations between E23K polymorphism and lipid levels (x±SE) in GDM population (p>0.05). In G/G genotyped GDM patients have the lowest levels (mg/dl) of triglyceride 213.50±14.42, LDL-cholesterol 125.26±9 and cholesterol levels 223.08±10.72. HDL-cholesterol levels were higher in genotyped G/A (57.57±2.13). The relations between E23K polymorphism and lipid levels (mg/dl) in control group were not significant (p>0.05).The lowest levels of triglyceride 177.83±25.5, cholesterol 196.5 (122-297) and LDL-cholesterol 116.82 (82.89-156.56) were determined in A/A genotyped pregnant.

Conclusion: There is no statistically importance according to genotypes E23K polymorphism in KCNJ11 gene in evaluation of lipid profiles.

PP – TH – 015

CORRELATION OF Hb A1c AND BLOOD SUGAR DURING NINE WEEKS CHILDREN WITH DIABET TYPE 1

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Background. Type 1 Diabetes Mellitus (DM) is a chronic condition in which the pancreas produces little or no insulin. Usually appears during childhood or adolescence, but it also can begin in adults. Various factors may contribute to type 1 DM, including genetics and exposure to certain viruses. Considering that the number of diabetic patients is increasing, it’s imperative for very accurate analysis of treatment efficacy based on laboratory analysis taken from blood samples.

Aim. The aim of this retrospective study was to assess how good is controlled DM type 1 in children treated in Republic of Kosovo.

Materials and methods: Retrospectively, we have determined HbA1c and glucose in blood samples, taken from 34 children diagnosed with type 1 DM and treated in Pediatric Clinic of Clinical University Center of Prishtina and compared them with 17 healthy children as a control group.

Results: Diabetic patients were classified in two groups: patients with poor controlled DM with average level of HbA1c above 7%, and patients with well controlled DM with average level of HbA1c under 6.99%. We found out that 35.3% were well controlled patients, while 64.7% were poor controlled patients with type 1 DM.

Conclusion: Based on our results, we concluded that blood glucose level of children with type 1 DM in our country, is not very well controlled. The values of HbA1C of the patients with well controlled DM were more approximate with the control group, than with the patients with poor controlled DM.

PP – TH – 016

CORRELLATION BETWEEN THE DIABETES MELLITUS TYPE 1 WITH THYROID DISFUNCTION

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Background: The Aim of this study was connected with investigation of the effect from Diabetes mellitus type 1 in Thyroid hormone levels and other biochemical variables and determination of the prevalence of abnormal thyroid function and the relationship with lipids levels.

Methods: The study was conducted during January 2015 and December 2015 at the University Clinic, Department of Endocrinology in Skopje, Macedonia. A group of 438 patients with diabetes mellitus Type 1 (T1DM) participated in the study and underwent investigations for thyroid functions. The serum samples for concentration of TSH, T4,fT4, and TPO have been tested with MEIA, FPIA, ELFA, ELISA methods using immunological AxSYM and VIDAS analyzers. The concentration of blood glucose, HbA1c, Urea, Creatinine, Total-cholesterol, HDL, LDL, Triglycerides, Total proteins and Albumin were measured by standardised biochemical methods in Cobas Integra 700 analyzer.

Results: The patients were divided into three groups according to the results: normal ranges(euthyroid), hypothyroidism and hyper-thyroidism. A total number of 438 Diabetic patients (Type 1) from different regions(three groups) were studied. In this study in our patients were confirmed very significant changes of Thyroid hormones ($p<0.001$) and hypothyroidism that were especially expressed in patients that belonged to the groups 2 (N=97) and 3 (N=176). Hypothyroidism was most common in female subjects with positive TPO (76%) as compared with negative (21%) TPO antibodies ($P < 0.001$). Lipids levels showed an increased trend as thyroid function declined; especially in patients with hypothyroidism and Type 1 diabetes. A number of 70 patients with diabetes mellitus Type 1 (15.9%) resulted with hyperthyroidism.

Conclusion: This study has indicated a high incidence of abnormal Thyroid hormone levels among the diabetes patients. A prevalence of higher hypothyroidism in women population was confirmed. From our results suggest that all subjects with type 1 diabetes should undergo annual screening by serum TSH measurement and other biochemical variable to detect thyroid dysfunction, particularly those with positive TPO antibodies, will help patients to improve their health and reduce their morbidity rate.

PP – TH – 017

DIABETIC NEPHROPATHY: MOST AFFECTED AGE-GROUP AND GENDER IN KOSOVA

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Background: Diabetic nephropathy today represents one of the most serious pathological conditions in medicine for humanity, and the disease of diabetes exacerbates further the prognosis of diabetic nephropathy. The purpose of this study was to determine which gender and age group is most affected with diabetic nephropathy in Kosovo.

Materials and Methods: A total of 44 patients, from the Internal Medicine Clinic in Pristina, were examined, 28 from the Nephrology department (10 women and 18 men), and 16 from the Hemodialysis Unit (6 women and 10 men). In all cases, blood was taken in the morning on an empty stomach.

Results: Average values of both – the Nephfrology (1) and Hemodialysis (2) patients pointed to higher than normal values for both genders, but in most cases male patients tested even higher than female patients. Following are the conducted tests, male vs female: glucose (1: 8.6 vs 8.2 mmol/L and 2: 7.0 vs 6.5 mmol/L); urea(1: 32.7 mmol / L vs 32.6 mmol / L and 2: 32.1 mmol / L vs 27.1 mmol / L; creatinine (1: 785.9 μmol / L vs 2: 611.1 μmol / L and 2: 979.6 μmol / L vs 753.7 μmol / L); cholesterol (1: 6.9 mmol/L vs 6.8 mmol/L and 2: 6.8 mmol/L vs 6.0) mmol/L.

Conclusion: The most affected age group from the tested diabetic nephropathy patients are those in the 46-55 age bracket (males 67% and females 33%), while the least affected were the 66 year-old and over (females 50% and males 50%).

PP – TH – 018

URINARY BIOMARKERS IN THE EARLY DIAGNOSIS OF RENAL DAMAGE IN DIABETES MELLITUS PATIENTS

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Introduction: The aim of this study was to determine the prevalence of tubular enzyme (NAG, AAP, g-GT), microalbuminuria, a1-microglobulin and β2-microglobulin among diabetic patients.

Materials and methods: 285 Type I diabetic patients and 30 healthy volunteers (controls) were evaluated. The urinary levels of tubular enzymes (NAG, AAP, g-GT)/ microalbuminuria and a-1/β-2 microglobulin were determined with standardized methods. Diabetic patients were divided into 3 groups: I-normoalbuminuria (3-30 mg/L), II-microalbuminuria (3- 300 mg/L) and III-macroalbuminuric (>300 mg/L).

Results: Compared with controls, I-normoalbuminuria excreted significantly high levels of urinary NAG ($p<0.05$). It was found the highest significant changes of urinary (NAG, AAP, g-GT), serum Cystatin C and β2 microglobulin in patients with microalbuminuria. There was no significant difference patients/controls in respect of serum/urine creatinine.The higher level of urinary a1 microglobulin and significant decrease of creatinin clearance were seen in patients (HbA1c > 8.5%) directly related to albuminuria.

Conclusion: Measuring the urinary NAG excretion, a1 microglobulin, Cystatin C could be useful for the assessment to renal failure in diabetic patients. The activity of AAP and g-GT was a less sensitive indicator of tubular damages. The level of β2 microglobulin and Cystatin C (diagnostic accuracies are superior to that of the serum creatinine) are the early indicators of incipient diabetic nephropathy. Urinary biomarkers appear to be useful in early detection of tubular and glomerular damages in patients (Type I diabetes).

PP – TH – 019

MICROALBUMINURIA AS THE EARLY IDENTIFICATION OF IMPAIRMENT IN PATIENTS WITH DM

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The complication from diabetic nephropathy is one of the main causes of mortality in patient suffering with DM. It results more persistent in patients with DM type1 than those with DM type2. In these circumstances the early identification of micro vascular system damage is very important to prevent and avoid complications.

Objective: evaluation of the presence of diabetic nephropathy in patients with DM in the district of Gjirokastra by evaluating the presence of microalbuminuria.

Methodology: we randomly evaluate the microalbuminuria and creatinine in urine as blood level of urea, creatinine, glucose and HbA1c of 56 DM type 1 patients which are follow up in Clinical Biochemistry Laboratory, "Omer Nishani" Hospital, Gjirokastra. 72% of the patients are male and 28% of them are female. Determination of microalbuminuria, creatinuria was conducted with the Siemens DCA 2000+, albumin in the urine was conducted with Urixon 200, the level of urea, creatinine and glucose was determinate using Byosystem Autoanalayzer Alfa 15.

Results: Evaluating the blood and urine lab tests results than HbA1c median level was 9.1% with SD +/- 2.48; only cases result with blood urea level up to the reference value, but in all cases the blood level of creatinine is inside the reference value.

Evaluating urine lab test result that albuminuria is no present but microalbuminuria is present in 22 patients (12.3%) studied from us.

Conclusion: In collaboration with endocrinologist we need to test microalbuminuria in urine of all DM patients, in order to identify and treat as early as possible kidney micro-level damage of kidney. We suggest that insurance fund have to support the evaluation of micro-albminuria in urine of all DM patients.

PP – TH – 020

VISCERAL ADIPOSITY INDEX CORRELATES WITH RETINOL-BINDING PROTEIN 4 AND INSULIN RESISTANCE, BETTER THAN ANTHROPOMETRIC PARAMETERS IN OVERWEIGHT/OBESE ADOLESCENT GIRLS

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Aim: Visceral adiposity index (VAI) is a novel parameter that reflects visceral fat status better than anthropometric parameters (e.g., waist circumference (WC) and body mass index (BMI)) in adults. However, there are conflicting results on the associations of this parameter with insulin

resistance (IR) and adipokines in adolescent population. In addition, to our knowledge, there are no studies examining the relationship between VAI and retinol-binding protein 4 (RBP4), a novel adipokine, closely related to IR. Therefore, we aimed to estimate this potential relationship between VAI and cardiometabolic markers in overweight/obese adolescent girls.

Methods: Seventy overweight/obese adolescent girls, mean age 17.6± 1.20 years, were included. Anthropometric and biochemical parameters, as well as blood pressure (BP) were measured. VAI was calculated.

Results: VAI correlated positively with fasting glucose (r=0.369, p=0.002), insulin (r=0.458, p<0.001), HOMA-IR (r=0.476, p<0.001), RBP4 (r=0.550, p<0.001), systolic BP (r=0.354, p=0.003) and diastolic BP (r=0.240, p=0.045). These correlations were weaker between WC, BMI and BMI z-score, respectively, and IR markers: insulin (r=0.354, p=0.003, r=0.176, p=0.146, and r=0.182, p=0.132), HOMA-IR (r=0.392, p<0.001, r=0.210, p<0.001, and r=0.221, p=0.066), and RBP4 (r=0.387, p<0.001, r=0.266, p=0.026, and r=0.270, p=0.024). On the other hand, anthropometric markers correlated with systolic BP and diastolic BP, better than VAI.

Conclusion: VAI correlated with insulin resistance and RBP4, better than WC and BMI, in overweight/obese adolescent girls. VAI can be useful marker for metabolic disturbances in adolescent population.

PP – TH – 021

METABOLIC DISTURBANCES IN OBESITY

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Background: Sedentary lifestyle and readily availability of calorie dense foods lead to overweight and obesity, which are considered major health concerns of the modern world. Overweight and obese subjects are at high risk of cardiovascular diseases and type 2 diabetes.

Aim of the study: The aim of this study was to assess several parameters of metabolic health in overweight and obese subjects, with focus on early diagnostics of type 2 diabetes.

Patients and methods: 102 overweight or obese subjects (28 men and 74 women) were included in the study. Oral glucose tolerance test (oGTT), lipid status, body mass index (BMI), waist circumference (WC) and blood pressure were measured by standard methods. Glycated hemoglobin (HbA1c) was measured by immunoturbidimetric method.

Results: 13 men and 26 women were diagnosed with type 2 diabetes. Notably, HbA1c was proven as more sensitive than oGTT for early diagnostics of Diabetes mellitus (DM) in this population. Both men and women with DM tended to have higher WC and BMI than nondiabetics, but the difference was not statistically significant. The percentage of hypertensive subjects was higher among diabetics, both men and women, but the difference was also not statistically significant. In addition, overweight/obesity abolished the sex difference of HDL-cholesterol in both diabetics and nondiabetics. Finally, diabetic persons, both men and women, were slightly, but significantly older than nondiabetics, which highlights the importance of maintaining a healthy lifestyle in aging population.

Conclusions: Effective strategies for preserving metabolic health of overweight/obese persons are needed, especially in aging population.

PP – TH – 022

IRON LOAD, FERRITIN AND SATURATED TRANSFERRIN PARAMETERS IN PATIENTS AFFECTED BY CIRRHOSIS IN ORDER TO FIND PATIENTS AFFECTED BY HEMOCHROMATOSIS GENETIC DISEASE (HFE GENE)

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Aims: Determination of serum IL, ferritin, ST in the patients affected by cirrhosis, in order to identify patients for hemochromatosis genetic disease. HFE gene testing of suspected patients.

Materials: 50 patients affected by liver disease (cirrhosis), (44 males, 6 females) were collected 5ml whole blood, serum was used for IL, ferritin, ST. 5ml blood in K3 EDTA tubes were collected for DNA extraction and testing HFE gene mutations.

Methods: Determination of IL, ferritin, ST: Blood serum was collected; ferritin was analyzed using VidasFerritin, miniVidas equipment, IL was analyzed using Colorimetric Chromazurol B, Endpoint method, Minitecno analyzer. ST was analyzed using immunoturbidimetry method, Cobas6000 equipment.

DNA extraction. 13 DNA patients was extracted from 200ul blood using INVITROGEN DNA extraction kit. DNA was conserved at -200C for use in gene testing.

HFE gene testing. Testing HFE mutations, C282Y, H63D, S65H, were performed in 10 DNA samples from patients with TS>50%, using Strip Assay protocol (Vienna lab).

Results and Discussions Determination parameters: IL, ferritin, ST in 50 patients affected by cirrhosis results in 13 patients with ST>50% (51%-92%). 6 patients with >50% ST have ferritin levels >300 ng/ul; IL<200ug/dL (158-182). 7 patients have ferritin levels<200 ng/ul, IL<183. These parameters do not indicate for typical hemochromatosis patients, but we proceed with HFE gene test for these patients. From HFE gene testing for C282Y, H63D, S65H mutations we found 2 patients C282Y heterozygotes, one patient heterozygote for H63D mutation. No carrier of S65H mutation was observed. The patients' carrier of mutations have shown various parameters of ST, IL and ferritin.

Conclusions: ST not a sufficient parameter to distinguish hemochromatosis patients (HFE gene); other investigations are in course to find other blood parameters to identify hemochromatosis.

PP – TH – 023

A ROUTINE BLOOD TEST AT BASELINE MAY PREDICT NON-SVR IN CHRONIC HEPATITIS C (CHC) TREATMENT WITH PEGINF /RBV

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Introduction: A number of factors influence response to therapy among CHC patients treated with standard scheme. Prediction of treatment failure in clinical practice from a routine blood test represents a simply fast way.
Aim: To evaluate the impact of pretreatment levels of biochemical and hematological parameters in treatment response.

Patients and methods: A total of 151patients, diagnosed with CHC in UHC "Mother Tereza" Service of Gastrohepatology were included in this study. The treatment scheme was PegINFalfa/ RBV. SVR was considered undetectable HCVRNA during treatment and 24 weeks after the end of it. The median baseline levels of total cholesterol (TC), TGC, Fast blood glucose (FBG), GGT, AST, ALT, WBC, HB, and PLT in both SVR and Non-SVR groups were compared. Data were analyzed statistically by T test. P < 0.05 is considered significant.

Results: From all patients 93 had SVR (61.5%) and 58 non-SVR (38.5%). Baseline TC levels (mg/dl) were lower in non-SVR group vs SVR group (151.71±31.55 vs 174.30±37.46, p=0.005), GGT levels (UI/L) were higher in non-SVR group (82.90±62.74 vs 56.56±57.55, p=0.04) and PLT levels (/mm3) were lower (179145.37±64504.51 vs 219827.06±80966.55, p=0.002). There were no significant differences between two groups (non-SVR vs SVR) for TGC(mg/ dl) (115.14±68.21 vs 106.48±52.10, p=0.5); FBG(mg/dl) (107.32±41.72 vs 98.72±30.77, p=0.5); AST(UI/L) (62.8/ml±33.57 vs 66.3±62.08, p=0.35); ALT(UI/L) (77,8±49.14 vs 114.4±136.4, p=0.079), WBC(/mm3) (6143.33±1725.42 vs 6462.35±1718.63, p=0.2) HB(g/dl) (13.88±1.62 vs 13.79±1.60, p=0.7).
Conclusions: In routine clinical practice significant negative baseline predictors of SVR were low level of TC, low level of PLT and high level of GGT.

PP – TH – 024

THE DECLINE RATE OF ALT AT WEEK 4 MAY PREDICT SVR IN CHRONIC HEPATITIS C (CHC) PATIENTS TREATED WITH PEGINF AND RIBAVIRIN

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Introduction: Peg IFN alfa and RBV combination therapy induce a decrease in ALT levels in CHC patients by suppressing the virus and the inflammatory process and ALT values remain normal in case of treatment success.

Aim: To evaluate the role of decline rate of liver enzymes early during course of treatment in prediction of SVR in patients with elevated ALT at baseline

Patients and methods: A total of 100 patients, diagnosed with CHC in UHC "Mother Tereza" Service of Gastrohepatology and which presented elevated ALT levels at baseline were included in this study. SVR was defined as undetectable HCVRNA during treatment and 24 weeks after the end of it. ALT values were monitored at baseline and during treatment. The early decline rate of ALT was assessed by comparing the values of ALT at week 4 of treatment between SVR and non-SVR groups. Data were analyzed statistically by T test. $P < 0.05$ is considered significant.

Results: From 100 patients with elevated ALT at baseline 60 (60%) of them had SVR and 40 (40%) non-SVR. The median levels of ALT at baseline in SVR and Non-SVR groups were 134, 38 ±77 UI/L and 94.5±48.7 UI/L, respectively. In week 4 the group with SVR showed a significant decline of ALT (51.68 ± 58.08 UI/L) versus the group with non–SVR (85.25 ± 73.47 UI/L) ($p< 0.01$).

Conclusion: Early normalization of ALT during treatment (week 4) in patients with CHC and elevated ALT at baseline is an important positive predictive factor for SVR

PP – TH – 025

ANEMIA IN PATIENTS WITH HIV/AIDS

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Purpose: To evaluate changes of peripheral red blood series through the study of the number of erythrocytes, the quantity of hemoglobin, HCT, erythrocyte constants: MCV, MCH, MCHC in patients diagnosed with HIV.

Material: We studied 104 seropositive HIV patients, aged 18-65 years, diagnosed in Infectious Disease Department at the University Hospital Center "Mother Teresa" in Tirana, during the period January 2008 - January 2013. The Hemogram was examined to all the patients at the time of diagnosis.

Method: Blood was collected in a sterile EDTA containing tube and processed following our established laboratory protocol. Haematology parameters were analysed in haematology auto analyser Sysmex KX-21. White blood cell (WBC) count, red blood cell (RBC) count and platelets are measured using direct current detection method. Differential leucocyte count was done on peripheral smear stained with Giemsa stain. Data were analyzed with SPSS statistical program.

Results: Considering the slight to moderate anemia the values of Hb of 8-12 g/dL and severe anemia the values of Hb of <8 g/dl, we found that 40.4% of patients had slight to moderate anemia while only 1% had severe anemia. Out of 43 patients with anemia 83% of them had normochromic, normocytic anemia.

Conclusion: Slight to moderate normochromic, normocytic anemia is a frequent change in patients diagnosed with HIV.

PP – TH – 026

THROMBOCYTOPENIA IN PATIENTS WITH HIV/AIDS

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Introduction: The mechanism of thrombocytopenia in HIV infection is mainly due to ineffective platelet production and at the same time increased platelet destruction.

Purpose: Determination and assessment of thrombocyte in hemogram of patients diagnosed with HIV.

Material: We studied 104 seropositive HIV patients, aged 18-65 years, diagnosed in Infectious Disease Department at the University Hospital Center "Mother Teresa" in Tirana, during the period January 2008 - January 2013. The Hemogram was examined to all the patients at the time of diagnosis.

Method: Blood was collected in a sterile EDTA containing tube and processed following our established laboratory protocol. Haematology parameters were analysed in haematology auto analyser Sysmex KX-21. White blood cell (WBC) count, red blood cell (RBC) count and platelets are measured using direct current detection method. Differential leucocyte count was done on peripheral smear stained with Giemsa stain. Data were analyzed with SPSS statistical program.

Results: Considering slight to moderate thrombocytopenia the number of platelets from 100,000 to 150,000 platelets/mm^3 and severe thrombocytopenia platelets <100,000/mm^3, we found that 14.7% of patients had thrombocytopenia. Among these 8.4% had moderate thrombocytopenia while 6.3% had severe thrombocytopenia. The average value of platelets was 244.1x103 mm3 (SD 119.7).

Conclusion: Thrombocytopenia can be the first appearance of hematological changes in patients diagnosed with HIV.

PP – TH – 027

THE ROLE OF MCHC (HYPER DENSE ERYTHROCYTE) AS A NEW TOOL IN THE DIAGNOSIS OF HEREDITARY SPHEROCYTOSIS (HS)

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Background: Hereditary spherocytosis (HS) is a common inherited disorder that is characterized by anemia, jaundice, and splenomegaly. Clinical severity is variable with most patients having a well-compensated hemolytic anemia. The primary lesion in HS is loss of membrane surface area, leading to reduced deformability due to defects in the membrane proteins ankyrin, band 3, beta spectrin, alpha spectrin, or protein 4.2. The classic laboratory features of HS include minimal or no anemia, reticulocytosis, an increased mean corpuscular hemoglobin concentration (MCHC), spherocytes on the peripheral blood smear, hyperbilirubinemia, and abnormal results on the osmotic fragility test.

Aim: of the study is to evaluate the role of MCV, MCHC as a screen test to diagnose spherocytosis.

Methods: In our study are included 60 subjects, 30 children with HS and 30 children-control groups. Our patients with anemia, jaundice, and splenomegaly are diagnose with HS by incubated osmotic fragility test, performed after incubating RBCs for 18-24 hours under sterile conditions at 37°C.

Results: We found that 25% of pts. Have mild HS, 20% moderate HS, 30% moderate to severe HS and 25% severe HS. In peripheral blood smear 7 % of pts. Had 0-5 spherocites for field, 30% had 5-10 spherocites for field and 63% had 10-15 spherocites for field. 70 % of pts. With HS have MCHC>38%. There are a positive correlation between MCHC and spherocites in peripheral blood smear (r=0,898, p<0,001) and RDW (r =0,647, p<0.001), negative correlation between MCHC and MCV (r=-0,437 p<0,001)

Conclusion: The dedication of hyper dense erythrocyte today is used as a new tool in diagnosing HS. The determination of MCHC constantly growing with other red cell index, MCV<80 fl, RDW>15 obtained from an electronic cell counter usually is enough to suggest for HS.

PP – TH – 028

DEEP2 –CLINICAL TRIAL IN UHCT" MOTHER TERESA"

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Aim: To demonstrate a short description of the first clinical trial in pediatric patients' group in Albania (in framework of FP7 of European Union, Albania is among other EU and non EU countries)

Background: Albania is "the house" of haemoglobinopathies. For many years laboratory doctors and clinicians have been worked out in screening of carriers with hameoglobinopathies and treatment of patients affected with these clinical conditions. In global it is estimated that in our country there is a prevalence of carriers around 7-8% (in some areas more, approximately 10%). There are nearly 550 (children and adults) with thalassaemia and sickle cell disease in treatment and in follow up.

Methods: 27 patients under 18 years of age have been included in Deferiprone Evaluation in Pediatrics study. The duration of study is one year and the study is ongoing. This study has to evaluate efficacy and safety of deferiprone(syrup) as a chelator in paediatric group of patients. Till now 15 patients have concluded the study. Among them 12 are under 6 years of age. All the variables are put in eCRF (electronic case report form).

Results: Laboratory data have been obtained twice or three times per month for each patient, more detailed data every month, estimated as visits (from V1-V15). The laboratory data like ferritin levels (local evaluation), biochemistry parameters in blood (creatinin, urea, electrolytes, hepatic enzymes, and other indicators) hepatic serology markers, urinalyses, hemoglobin and neutrophil count have been performed strictly in our central laboratory of UHCT. It is to stressed that fortunately we have realized MRI evaluation of heart and liver for iron overload to 11 patients above 10 years of age (abroad).

Conclusion: The involvement of our centre in this international project will quickly give positive results in terms of advancement of standards of care, prevention and research.

PP – TH – 029

THALASSEMIA TRAIT AND OTHER HAEMOGLOBINOPATHIES IN OUTPATIENT CLINICS OF UHC "MOTHER TERESA" – A SIX MONTHS STUDY

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Background: Thalassemia and other hemoglobinopathies are among the most common hereditary diseases in the world and they represent a major public health problem in many areas, including Albania. In our country, no definite national screening programme of β-thalassemia has been developed for carrier detection.

Objective: The aim of this study was to determine the prevalence of β-thalassemia trait and other haemoglobinopathies in anemic patients presenting at pediatric and adult outpatients clinic of UHC "Mother Teresa", from January to July 2016.

Materials and methods: Blood samples were collected from 184 pediatric patients (1 – 14 years old) and 198 adults (15 – 83 years old) presenting with microcytic (MCV < 80fl) and hypochromic (MCH < 32 pg) anemia.

Complete blood counts were performed with automatic counting methods in the primary health care laboratory. Hemoglobin electrophoresis was performed to all samples using SEBIA Hyris-Hydrasys system. Normal values were defined as HbA > 95%, HbA2 < 3.5% and HbF < 2%.

Results: β-thalassemia trait was detected in 59 adults with microcytic-hypochromic anemia (29.8%) and in 32 pediatric patients (17.4%). We have found also the presence of sicklemia in 3% of adults and 9% of pediatric samples.

Conclusion: Our results confirm the importance of screening for β-thalassemia in Albania.

PP – TH – 030

PLASMA LEVELS OF MARKERS OF INFLAMMATION, AS EXPRESSION OF THE INTERCONNECTION OF PERIODONTITIS WITH ATHEROSCLEROSIS

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Purpose: Risk factors for periodontitis, combined with genetic and etiologic factors, affecting the oral and systemic clinical view of the patient, assisting in promoting of atherosclerosis. Plasma levels of markers of inflammation are expressive, in interconnection of existing periodontitis, with advancing arteriosclerosis.

This study aims to assess the effect of non-surgical periodontal treatment, expressed in levels of periodontal indices, correlated with the quantitative and qualitative level, of the plasma markers of inflammation.

Materials and methods: The first phase of the study is the application of the designed

protocol at experimental sample of 10 patients. The second phase, current, is the reflection of correlations expressed before, in the biggest sample of patients, about 54 patients. Patients were evaluated for percentage of bleeding surfaces and probing depth to Ramfjord teeth. Blood analysis and evaluation of periodontal status of patients was performed before treatment and 1 week post-treatment or after the terminal stage of treatment. P value ≤ 0.0002 indicates statistically significant relationship.

Results: The data showed that the average of clinical bleeding areas and probing depth are reduced by 62% and 2.5mm, respectively. Non-surgical periodontal treatment significantly reduces the level of fibrinogen in the blood, in the range 10-20 mg/dL.

Conclusion: Micro oral flora is a potential source of temporary periodontal bacteremia, with the potential of promoting atherosclerosis, through increased interaction with blood cells. Non-surgical periodontal treatment significantly reduces the level of fibrinogen, known as risk factor for the development of arterial arteriosclerosis.

PP – TH – 031

SIGNIFICANCE OF F-CALPROTECTIN AND CRP DETERMINATION IN PATIENTS WITH INFLAMMATORY DESEASE OF THE COLON AND IRITABILE BOWEL SYNDROME

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Background: Fecal calprotectin (FC) determination is reliable/simple method for differential diagnosis of inflammatory bowel diseases (IBD), ulcerative colitis (UC), Crohn's disease (CD), irritable bowel syndrome (IBS) and functional disorders of gastrointestinal tract. Elevated FC indicates neutrophil migration to the intestinal mucosa, in intestinal inflammation. C-reactive protein (CRP) is well established inflammatory marker. Adding CRP to FC determination may help in distinguishing IBD from IBS.

Objective: To evaluate CRP and FC as the diagnostic tool for assessment of endoscopically defined disease, and to demonstrate strong response of FC and CRP in IBD compared to IBS.

Methods: 79 patients (42 male/37 female) from the Clinic for Gastroenterology were assessed (27 UC, 29 CD, 23 IBS). Diagnosis of inflammatory diseases was established colonoscopically and pathohistologically. Diagnosis of IBS was established on Rome III criterion, excluding organic disease colonoscopically. FC was measured in fecal samples using Buhlmann Quantum Blue immunoenzyme tests/reader, CRP using commercial immunoturbidimetric assay. Spearman correlation test was applied to evaluate the findings.

Results: FC and CRP values, shown as Median (P_{25}, P75), were respectively in: IBS 95.0(78.3, 148.0); 2.3(2.0, 3.1); CD: 1406.5(476.8, 1713.8); 56.7(26.3, 86.5); UC: 1648.5(1039.3, 1756.3); 41.6(19.6, 62.0). FC in all patients was elevated. FC findings correlated with CRP in CD (p=0.05). However, in IBS patients, FC was significantly lower (p=0.05) compared to the UC and CD. Likewise, CRP levels were significantly higher (p=0.05) in IBD than in IBS patients.

Conclusion: Significantly higher levels of FC and CRP in UC and CD than in IBS indicate potentially useful application of those markers in differentiating IBD from IBS.

PP – TH – 032

MARKERS OF INFLAMMATION IN EARLY DYAGNOSIS OF SYSTEMIC LUPUS ERYTHEMATOSUS

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Background: Systemic lupus erythematosus (SLE) is a chronic autoimmune disease characterised by multi-systemic involvement. The pathology of SLE is related to deposits of immune complexes in various organs, which trigger complement and other mediators of inflammation. Pathological changes of inflammation parameters indicate the development of inflammation, hematological and immunological disorders. Interpreted in the context of the clinical manifestations, they indicate on SLE and necessity of performance of specific laboratory tests for SLE.

Materials and methods: This retrospective clinical study included 100 patients with SLE. The results of laboratory parameters (leukocytes, lymphocytes, erythrocytes, hemoglobin, platelets, sedimentation, CRP, C3, C4 complement components, albumin, anti-dsDNA-Ab) were taken from the patients' medical histories. Descriptive statistical methods and Chi-square test were used for data analysis. Correlation of continuous size was determined by Pearson coefficient of linear correlation (r). The statistical hypotheses were tested for statistical significance level of 0.05.

Results: Elevated values of SE were found in 91(87.4%), CRP in 21(42%) and anti-dsDNA-Ab in 68(66%) of patients and reduced values of C3 in 52(44.3 %), C4 in 49 (37.3%), hemoglobin in 61(61%) and albumin in 53(47%) of patients. A negative correlation was found between levels of anti-dsDNA-Ab and C3($p<0.01$, $r=-0,562$) and C4($p<0.05$, $r=-0,294$). There were 28,8% of patients with reduced values of C3 and normal anti-dsDNA-Ab and 54% of patients with reduced values of C3 and elevated anti-dsDNAAb, a statistically significant difference (Chi-square=4.868; $p=0.030$).

Conclusion: Characteristic pathological changes in inflammatory markers together with characteristic clinical manifestations direct to early diagnosis of SLE.

PP – TH – 033

ERYTHROCYTE SEDIMENTATION RATE IN THE EVALUATION OF DISEASE ACTIVITY AND SEVERITY OF RHEUMATOID ARTHRITIS

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Aim: To estimate the relation of ESR with disease activity score DAS28-ESR values for remission, low disease activity and high disease activity in patients with Rheumatoid Arthritis.

Rheumatoid Arthritis (RA) is a chronic, destructive, inflammatory and autoimmune disease with articular and systemic manifestations. There are various mechanisms involved in development of the disease. T activated cells influence synovia inflammation by activating autoantibodies and stimulation of hepatic proteins of acute phase of inflammation (CRP and Hepcidin) which stimulate the increase of ESR. ESR and CRP

have an important role in diagnosis and follow-up of RA. The aim of our study was to evaluate the level of ESR and its relation with disease activity according to DAS28 among patients with Rheumatoid Arthritis.

Methods: DAS28 data were analysed using observational study database of patients with Rheumatoid Arthritis. DAS28-ESR was calculated from four components: tender joint count, swollen joint count, visual analogue scale (VAS) score of global health and ESR. The relationship between the DAS28-ESR and ESR values was analysed.

Results: During the last 2 years were reported 208 patients with mean age 65±9.1 years presented with RA. Of these, 141(67.78%) were females and 67(32.2%) males. It was analysed DAS28-ESR for every patient and it was compared to respective values of ESR.

Conclusion: Our study provides evidence about the relation of ESR with disease activity according to DAS28 values in patients with Rheumatoid Arthritis. It was found that the high level of ESR was strongly related to high disease activity and poor prognosis.

PP – TH – 034

IS THERE ASSOCIATION BETWEEN RHEUMATOID ARTHRITIS, CARDIOVASCULAR EVENTS AND DIABETES MELLITUS?

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Aim: Rheumatoid arthritis (RA) is a chronic disorder. It has been recognized that RA leads to cardiovascular (CV) events and diabetes mellitus (DM). The aim of this study was to examine the relationship of RA activity with lipid levels, concentration of C-reactive protein (CRP) and insulin resistance (IR).

Methods: Twenty five patients (22 women and 3 men) were included in pilot-study.

RA disease activity was assessed by the Disease Activity Score28 (DAS28). Low/ medium disease activity was defined as DAS28<5.1, and high as DAS28 ≥5.1. Total, HDL-, LDL- cholesterol, triglycerides, glucose, CRP and insulin serum levels were determined by commercial assays.

Results: The patients were divided into two groups: high DAS28 group (DAS28 ≥ 5.1) (16 patients) and low/medium DAS28 group (DAS28<5.1) (9 patients).

Patients in high RA activity group had lower HDL-cholesterol level compared to low/medium RA activity group (1.35 mmol/L vs 1.68 mmol/L) ($p<0.05$). There was no significant difference in total- and LDL-cholesterol, triglyceride, glucose and insulin levels. There was negative correlation between IR and HDL-cholesterol ($r= -0.36$, $p=0.07$) and between DAS28 index and HDL-cholesterol level ($\rho= -0.40$, $p=0.04$). Significant correlation was found between CRP and insulin ($r=0.57$, $p=0.003$), CRP and IR ($r=0.59$, $p=0.002$) and IR and glucose ($r=0.66$, $p<0.001$).

Conclusion: Patients with high activity RA had significant correlation between HDL-cholesterol levels and disease activity. The association of IR and RA activity was identified. It can be hypothesized that IR of patients with active RA can lead to DM and cardiovascular events.

PP – TH – 035

THE ROLE OF SEROLOGY IN THE DIAGNOSTIC ALGORITHM OF CELIAC DISEASE

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Introduction: Recent observations and research have established that celiac disease is an autoimmune pathology with multifactorial causes leading to malabsorption of one or more nutrients in the intestinal epithelium. It is a common disease with different manifestations in several systems and worldwide distribution. Environmental, immunologic and genetic factors are important in the pathogenesis of the disease.

Material and methods: We have studied the antibodies anti-gliadin IgA and IgG and anti-transglutaminase IgA and IgG in 95 pediatric patients admitted at the gastroenterology department of the Mother Theresa medical center in Tirana. All cases had signs and symptoms related to gastrointestinal disorder like diarrhea, constipation, pain, malaise, failure to thrive or slow growth.To all cases in the study the level of antibodies was measured by imuno-enzymologic methods using ELISA diagnostic kits.

Results: There were 27 cases with at least one positive antibody to gliadin or transglutaminase. 7/27 (25, 9%) cases had a positive IgG antigliadin antibodies, 5/27 (18,5%) cases had a positive IgA antigliadin antibodies, 12/27 (44,4%) cases had positive IgG anti-transglutaminase antibodies, 16/27 (59,2%) cases had positive IgA anti-transglutaminase antibodies.

Conclusions: Out of all the 95 children taken in the study, 27 had a positive antibody against gliadin or transglutaminase. Based on the sensitivity and specifity of those serologic tests and on the improvement of clinical symptoms after a gluten free diet, the possibility to diagnose celiac disease using serology is higher than 95%.

PP – TH – 036

NON-INVASIVE VENTILATION DECREASES THE BLOOD LEVEL OF $PaCO_2$, BUT INCREASES THE LEVELS OF PaO_2 AND SaO_2 IN PATIENTS WITH CHRONIC OBSTRUCTIVE PULMONARY DISEASE AND ACUTE RESPIRATORY FAILURE

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Aim: The aim of this study was to assess the effectiveness of non-invasive ventilation (NIV) in the treatment of chronic obstructive pulmonary disease (COPD) and acute respiratory failure among hospitalized patients in Tirana. More specifically, our objective was to compare the partial pressure of carbon dioxide (PaCO2) and the partial pressure of oxygen (PaO2) in the blood, as well as the arterial oxygen saturation (SaO2) between patients administered NIV and their counterparts undergoing the conventional treatment procedure.

Methods: We performed a comparative study including patients with COPD and acute respiratory failure hospitalized at the University Hospital of Lung Diseases "Shefqet Ndroqi" in Tirana during the period 2011-2014. Overall, 250 patients were included in this study, divided into two groups: 125 patients were administered NIV, whereas 125 patients underwent the standard (conventional) treatment procedure. Mann-Whitney U-test was used to compare the mean values of PaCO2, PaO2 and SaO2 upon hospital discharge between the two groups of patients.

Results: Upon hospital discharge, mean value of PaCO2 was significantly lower in patients who were administered NIV compared with those who underwent the standard/conventional therapy (46.4±1.9 vs. 58.6±2.3, respectively; P<0.001). Conversely, the mean value of PaO2 and SaO2 were both higher among patients administered NIV than in their counterparts undergoing the conventional therapy (for PaO2: 69.7±5.8 vs. 53.7±6.4, respectively, P<0.001; for SaO2: 92.1±2.8 vs. 81.6±3.2, respectively, P<0.001).

Conclusion: Our findings indicate that NIV is effective in the management and control of Albanian patients diagnosed with COPD and acute respiratory failure. Specialized physicians and other health professionals should be aware of the importance and benefits of NIV as an effective tool for management of patients with COPD and acute respiratory failure.

PP – TH – 037

BIOCHEMICAL AND CLINICAL BENEFITS OF NON-INVASIVE VENTILATION IN PATIENTS WITH CHRONIC OBSTRUCTIVE PULMONARY DISEASE AND ACUTE RESPIRATORY FAILURE

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Aim: Our objective was to compare the pH level, the bicarbonate (HCO3) levels, as well as the respiratory and cardiac frequencies in patients with chronic obstructive pulmonary disease (COPD) and acute respiratory failure with and without administration of non-invasive ventilation (NIV).

Methods: Our study included 250 patients diagnosed with COPD and acute respiratory failure who were hospitalized at the University Hospital of Lung Diseases "Shefqet Ndroqi" in Tirana in 2011-2014. Patients were divided into two groups: 125 patients were administered NIV, whereas 125 patients underwent the standard (conventional) treatment procedure. Mann-Whitney U-test was used to compare the mean values of pH, HCO3 and the respiratory and cardiac frequencies between the two groups of patients upon hospital discharge.

Results: Patients who were administered NIV had a pH less acid compared with their counterparts who underwent the standard/conventional therapy (mean pH level: 7.39±0.03 vs. 7.31±0.02, respectively; P<0.001). Similarly, the blood level of bicarbonates (HCO3) – which has a crucial role in the physiological pH buffering system – was significantly lower in patients undergoing NIV (25.6±1.7 compared with 33.9±2.1 in patients with conventional therapy, P<0.001). Furthermore, mean values of both respiratory and cardiac frequencies were lower upon hospital discharge in patients with NIV than in those undergoing the conventional therapy (respiratory frequency: 23.2±1.9 vs. 28.2±2.8, respectively, P<0.001; cardiac frequency: 81.6±4.7 vs. 93.7±5.3, respectively, P<0.001).

Conclusion: Our study indicates that NIV improves important biochemical and clinical parameters in patients with COPD and acute respiratory failure. Hence, it is important to identify in the clinical practice patients who need to undergo NIV in order to benefit as much as possible from this treatment strategy.

PP – TH – 038

PROMISING THERAPEUTIC TARGET OF PP2A AND THE EFFECT OF APOPTOSIS ON CML

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Aim of study: Chronic myeloid leukemia (CML) is characterized by increased tyrosine kinase activity depends on BCR/ABL translocation. Resulting in translocation, that is known to cause activation depending on new chimeric gene formation, is a new rearrangement in Phiadelphia (Ph) chromosome. This new rearrangement occurs after translocation which is between chromosome 9 and 22. Patients have being generally treated using tyrosine kinase inhibitor (TKIs) to inhibit this BCR-ABL1 kinase activity, occurred by rearrangement. For this purpose, dasatinib, a second-generation inhibitor, is used for inhibition of BCR-ABL1. Although dasatinib is 325-fold more effective than that of imatinib that is first-generation tyrosine kinase inhibitor, 20% of CML patients generally don't respond to treatment with certain drugs. Therefore, other molecular approaches should be investigated. For that purpose, protein phosphatase 2A (PP2A) that is found genetically or functionally altered in CML, may be promising therapeutic target. PP2A consist of three subunits and involved in many cellular function. In our study, we aimed to evaluate the effect of PP2A in apoptosis by using PP2A inhibitor okadaic acid (OA).

Material-Methods: The effect of dasatinib on KML and the cytotoxic effect of dasatinib were evaluated by WST-1 analysis. Apoptotis analysis was performed via Annexin V and Apo-Direct Tunel assays. Okadaic acid (OA) was used as PP2A inhibitor to assess the role of PP2A in apoptosis.

Results: The cytotoxic effect of dasatinib in K562 cell line was found to be 4.6 nM at 48th hour. The increase in apoptosis, owing to the repression of PP2A by OK,was detected. According to Annexin V, apoptosis was increased to 2.35 and 3.76 fold by treating with dasatiniband 2.5 nM and 25 nM OA combination, respectively. According to Tunel assay, apoptosis was induced 16.45-fold and 49.38-fold in same order.

Conclusion: We found that PP2A has major role in cell homeostasis and apoptosis. Thus, we would suggest that targeting PP2A inhibitors may be promising therapeutic approach CML.

PP – TH – 039

SERUM KCNJ3 AND KCNK9 LEVELS IN BENIGN AND MALIGN BRAIN TUMORS

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Objective: The aim of this study was to investigate the variations affecting the tumor invasion in inwardly rectifying potassium channel (KCNJ3) and two-pore potassium channel (KCNK9) proteins in serums of benign and malign brain tumor patients.

Material and Methods: This study included a total of 75 subjects who were equally divided into three groups. Group-1: control group of healthy volunteers, Group-2: patients group with benign brain tumor and Group-3: patients group with malign brain tumor. KCNJ3 and KCNK9 protein

levels were determined in serum samples by enzyme linked immunosorbent assay (ELISA) method.

Results: There was no significant difference for serum levels of KCNJ3 and KCNK9 proteins between the control group of healthy volunteers and the patients group with benign brain tumors ($p>0.05$). However it was observed that the serum levels of KCNJ3 and KCNK9 proteins significantly increased in cases with malignant brain tumors compared to the ones with benign brain tumors and the control group of healthy volunteers ($p<0.05$).

Conclusion: We can conclude that KCNJ3 and KCNK9 protein levels can be used in diagnosis of brain tumors due to the increased serum levels in malignant brain tumors. It is expected that this study would give a new insight to researches working on this topic.

PP – TH – 040

THE EFFECT ON ANGIOGENIC AND ANTIANGIOGENIC FACTORS OF TREATMENT IN NON-MUSCLE INVASIVE BLADDER CANCER

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Objective:To examined the effect on angiogenic [vascular endothelial growth factor (VEGF-2) and matrix metalloproteinase(MMP-2)] and antiangiogenic [endostatin (ES) and thrombospontin-1 (TSP-1)] factors of treatment in non-muscle invasive bladder cancer.

Methods: 30 patients with non-muscle invasive bladder cancer and 30 age-matched healthy controls were included in the study. Peripheral blood samples were obtained from the patients before transurethral resection of bladder tumor, 20 days after the operation and at the end of intravesical immunotherapy. VEGF-2, MMP-2, ES and TSP-1 were measured by ELISA. The mean marker levels of the patients and controls were statistically compared. The mean marker levels of the patients before TURBT, in the first and second control were also compared.

Results: The mean age of the patients (6 females and 24 males) and controls (6 females and 24 males) were found to be 67.27±8.44 and 65.74±7.22, respectively ($p=0.54$). Although the mean VEGF-2 and MMP-2 levels in the patients before TURBT were significantly higher than the controls($p<0.001$ and $p<0.05$, respectively), there were no differences between the mean ES and TPS-1 levels($p=0.53$ and $p=0.67$, respectively). The VEGF-2 and MMP-2 levels significantly decreased after TURBT($p<0.001$ and $p<0.05$, respectively). These reductions continued after intravesical immunotherapy, but these differences between first and second control were statistically insignificant.

Conclusion: This study showed that elevated angiogenic factors in the patients with bladder cancer decreased after the treatment. We think that VEGF-2 and MMP-2 may be used for the follow-up and therapy of non-muscle invasive bladder cancer.

PP – TH – 041

PROGNOSTIC VALUE OF HAEMATOLOGICAL COUNTS AND TUMOR MARKERS IN PATIENTS WITH NON-SMALL CELL LUNG CANCER (NSCLC)

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Background: The aim of the work was to assess the value of haematological parameters (WBC,RBC,Hg,PLT), tumor markers Cyfra 21-1, CEA and neuron-specific enolase (NSE) as prognostic factors in advanced stages of (NSCLC) patients.

Material and Methods: 138 randomized patients (NSCLC) were compared with 30 patients non malignant pulmonary disease (controls): 5-infectious diseases and 25-chronic obstructive pulmonary diseases. Hematological counts (WBC, RBC, HgB, PLT) and tumor markers (Cyfra 21-1, CEA, NSE) were assayed with standards methods. Applied chemotherapy (Cisplatin and Carboplatin).

Results: Haematological counts and tumor markers (before / after chemotherapy) was determined in males/females in different age (< 40 - >70). During their hospitalization was found leucocytosis (27.6%), anemia (40.5%) and trombocytosis (8.2%). Significant decline in hemoglobin (93.5g/L), leucopenia (12.0%) and thrombocytopenia (13.0%) after the second cycle of the chemotherapy. The Median level (Cyfra 21-1), 36.2 ng/ml, range (2.8-215.0) and NSE (23.4 ng/ml) before and significant decrease of Cyfra 21-1 (24.3 ng/ml) range (3.4-145.0) and NSE (14.2 μg/ml) after chemotherapy, except CEA. Cyfra 21-1 was elevated in 22.3%, NSE in 10.8% and CEA in 16.5% of patients respectively. Median survival (11 mounts) (range 1-63).

Conclusion: In general population study, there is a significant differences between the frequency of lung cancer in different type and stages. Our results suggest that Cyfra 21-1 is more sensitive and specific marker for the diagnosis of NSCLC. Haematological parameters may be used in clinical trials and may help in taking the appropriate treatment decision.

PP – TH – 042

CEA AND Ca 19-9 AS PROGNOSTIC INDEX IN COLORECTAL CANCER

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Background: The use of a combination of tumor markers may be an important tool in the early diagnosis of colorectal cancer, which is the key to improving prognosis. The study aim was to investigate the diagnostic value of carbohydrate antigen 19-9 (CA 19-9) and carcinoembryonic antigen (CEA) in suspected patients and also in patients with colorectal cancer.

Patients and Methods: Blood samples were collected from 280 patients (61.22% confirmed high levels of tumor markers) and 30% healthy

(controls). An ELISA assay was used to measure the serum CEA/CA 19-9.

Results: In patients with colorectal cancer the mean serum CA19-9/CEA levels (89.55+/-21.18U/L;18.43+/-2.25 ng/ml) were significantly higher than healthy examinees (14.34+/-1.95U/L; 2.17+/-0.37 ng/ml). At the time of diagnosis, 22% of the patients had elevated serum levels of CEA and 15% of CA 19-9. Relapse was observed in 51 patients and18.2% of whom had elevated CEA and/or Ca 19-9 levels. Among patients without relapse, 68% and 73% had normal values of CEA and CA 19-9, respectively. The sensitivity of the combined detection of CA 19-9 and CEA (3.1%) was significantly higher than that of the single marker (79.49%, 71.79%, respectively).

Conclusion: The combined detection of CA 19-9 and CEA could overcome the deficiency of using single marker detection by improving the sensitivity to diagnose of colorectal cancer. At the same time, CA 19-9/CEA detection could be used to assess mesenteric artery invasion and the metastasis of lymphatic's and distant organs in pancreatic cancer.

PP – TH – 043

CELLULAR AND PLASMA LEVELS OF OXIDIZED PROTEINS AS A RISK FACTOR IN THE PROGRESSION OF ATHEROSCLEROSIS

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A large quantity of free radicals synthesis or decreased rate of their removal is the cause of oxidative stress, which often affects to the biological macromolecules, causing metabolic disorder.

This study was aimed to determine the degree of protein oxidation on one hand, and antioxidant protection measured in erythrocyte stroma in patients with various disturbances in lipid status, on the other.

In the research were included 199 male patients at 30-65 years of age. 22% of the patients were subjected to the control group. Only 8% of the patients were diagnosed with acute myocardial infarction (AMI), while the rest of patients were categorized relevant to cholesterol and triglycerides' concentrations by means of Fredrickson classification. Plasma advanced oxidation protein products (AOPP), protein carbonyls (PC) and GSH in erythrocyte were measured spectrophotometrically.

The concentration of AOPP measured in plasma, was significantly increased in all groups with diagnosed dyslipoproteinemias, including the group with AMI diagnosis. Quantification of protein carbonyl groups showed a moderate but significant increase in the group with dyslipoproteinemias.

By measuring of the level of GSH in the erythrocytes is obtained that the level of the antioxidant defense is with reduced activity in all tested groups compared to the control.

The data of this study suggest that measurement of oxidation protein products, can be a novel, precise marker for measurement of oxidative instability of macromolecules, which may help in the prognosis of cardiovascular disorders. The method is quick, reproductive, and requires a small amount of diluted and delipidemic plasma.

PP – TH – 044

NUCLEIC ACIDS OXIDATIVE STRESS STATUS IN SJOGREN SYNDROME

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Aim: Oxidative damage to nucleic acids has been found to be associated with etiopathogenesis and disease activity of inflammatory disorders. We aimed to evaluate levels of nucleic acids oxidative strees products in patients with sjogren syndrome.

Methods: Blood samples were collected from 19 psoriatic arthritis patients, 9 rheumatoid arthritis patients, 11 sjogren syndrome patients and 12 healty controls. We measured three oxidized guanine species by DNA/RNA oxidative damage ELISA kit as; 8-hydroxy-2'-deoxyguanosine as a DNA oxidation marker, 8-hydroxyguanosine as a RNA oxidation marker, and 8-hydroxyguanine as a DNA and RNA oxidation marker.

Results: There was no statistically significant difference between the groups in terms of age and gender. The average level of serum oxidized guanine species in the psoriatic arthritis, rheumatoid arthritis (under treatment), sjogren syndrome and healty control groups were 2871.77 + 336.20, 2672.20 + 292.04, 3375.57 + 344.21, 2777.55 + 237.05 pg/mL respectively. Oxidized guanine species levels were significantly higher in patients with sjogren syndrome and positively correlated with CRP levels (p:0.011, r: 0.726).

Conclusion: Prompting studies aimed at elucidating SS pathogenesis and in the prospect of chemoprevention trials in SS clinical management. A marked increase in DNA damage leading to oxidative stress which may contribute to tissue damage and hence to the chronicity of the disease

PP – TH – 045

GREEK MOUNTAIN TEA EXTRACT DECREASES OXIDATIVE STRESS AND DEMONSTRATE SIGNIFICANT HEALTH BENEFIT

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Background & aims: Greek mountain tea is a caffeine free herbal tea, which is known from ancient civilization for its benefits for the immune and respiratory systems. Although the mountain tea extract has a lower phenolic concentration and total antioxidant capacity than green tea, their cellular antioxidant effects were similar due to comparable bioavailability according to a study. Our aim was to evaluate the effect of mountain tea drinking on some factors such as total antioxidant capacity, weigh loss and hyperlipidemia.

Methods: The study was performed in 40 Greek students age 20-40. We evaluated the total antioxidant capacity (TAC), the total cholesterol status and their weight. Analytical evaluations were performed after 5 weeks drinking 0.5l of tea daily, Tea was prepared daily at the same conditions of temperature, time of infusion and concentration.

Results: After mountain tea drinking, we found a significant increase in serum total antioxidant levels in 68,5% of the subjects (31,5% of the subjects had same TAC levels), as suggested by a significantly higher value of serum TAC (1st sample TAC Mean value 1,455 mM/2nd sample TAC Mean value 1,440mM). A loss in the weight (about 2 kilos) of 52.6% of the subjects was also observed. The cholesterol levels were significantly lower.

Conclusions: Our data suggest for mountain tea drinking a beneficial effect, by reducing oxidative stress, cholesterol levels and seem to protect from heart diseases. Further studies with more subjects are needed to clarify the healthy effect of greek mountain tea.

PP – TH – 046

IMPACT OF DYSLIPIDEMIA ON CARDIOVASCULAR MORBIDITY AND MORTALITY IN DIALYSIS PATIENTS

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Aim of the study: To determine the impact of dyslipidemic factors on cardiovascular morbidity and mortality in DP.

Method: Our dialysis population studied consisted in 85 stable prevalent hemodialysis patients (mean age 49.9 ± 12.4 years old) and 41 PD patients (mean age 55.5 ± 14.5years old) being in RRT for more than 3 months with a prospective follow up 2 years. We used the recommendations of the Medical Experts Group concerning cardiovascular risk factors for the categorization of dyslipidemic factors. Cox regression was used to evaluate the relationship between lipid levels CV morbidity and mortality.

Results: CAPD patients had in sum a markedly worse lipid profile when compared to HD patients with a higher total cholesterol (p=0.001); LDL cholesterol (p<0.001) and lower HDL cholesterol levels (p=0.002). It was not found significant difference in TG levels in two groups (p=0.280). In CAPD 46% of patients received lipid lowering treatment vs. 19.2% in HD ones. In multivariate Cox regression analysis neither higher, nor lower level of TC, LDL-C and HDL-C were not found to have significant HR in CV morbidity. Significant HR was found only for TG levels>180 mg/dl in CAPD patients [1.36 (1.01-2.82), p<0.05]. None of lipid disorders was found independent risk factor for CV mortality of our population studied.

Conclusion: CAPD patients have a worse lipid profile. No evidence exists to suggest that this highly atherogenic lipid profile is directly associated with cardiovascular risk, treatment of hypertriglyceridemia when TG levels are over 180 mg/dl may be useful.

PP – TH – 047

LIPID METABOLISM DISORDER IN DIABETIC AND NONDIABETIC PATIENTS ON CHRONIC HEMODIALYSIS

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Background. Chronic renal failure results in profound lipid disorders, which stem largely from dysregulation of high density lipoprotein (HDL) and triglyceride-rich lipoproteins metabolism. Diabetic patients undergoing hemodialysis demonstrate much worse survival rates than do non diabetic. To search for risk predictors, we study the dyslipidemia in diabetic and non-diabetic patients on chronic hemodialysis.

Materials and Methods: 60 hemodialysis patients were classified into two groups: 30 diabetic and 30 non-diabetic patients. Among all the patients, serum triglycerides, total cholesterol, LDL-C, HDL-C, and albumins were determined. The same parameters were determined in 30 healthy people, as a control group.

Results: Results showed that serum concentration of triglycerides in diabetic patients, were significantly higher than in non diabetic patients (2.94 mmol/L vs. 2.30 mmol/L, p<0.01). Diabetic patients had significantly lower serum levels of HDL-C and albumin than non diabetic (0.64 mmol/L vs. 0.97 mmol/L, p<0.01 and 28.43 g/L vs. 35.93 g/L, p<0.01). All diabetic patients (100%) had a HDL level lower than 1 mmol/L, which was significantly higher percentage than in non diabetic patients (60%). No significant differences were detected in total cholesterol and LDL-C (3.62 mmol/L vs. 4.54 mmol/L, p>0.05 and 1.8 mmol/L vs. 2.51 mmol/L).

Conclusion: Our results provide the evidence that hemodialysis diabetic patients were more affected from lipid disorders and cardiovascular morbidity than non diabetic patients

PP – TH – 048

IS HYPERPHOSPHATEMIA A RISK FACTOR FOR ATHEROSCLEROSIS IN DIALYSIS PATIENTS?

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Introduction: Previous data suggest that elevated serum phosphate level increases risk of cardiovascular events. Phosphate level, residual renal function and other risk factors in modeling carotid arteries in peritoneal dialysis (PD) and hemodialysis (HD) patients was studied.

Method: 39 stable PD and 53 HD patients on (RRT) were studied for a period 3 to 36 months. B-mode ultrasonography was used to determine (CIMT). CIMT > 1cm and/or presence of plaque were considered atherosclerosis. The logistic regression model was used to determine the association of possible risk factors with atherosclerosis.

Results: Population under study: 92 pts of whom 53pts (61%) on hemodialysis, with mean age 53.4 +/- 14.5 years. Expectedly, PD patients had a higher RRF (p<0.001), and a lower phosphate (p=0.01), PTH (p<0.05), alkaline phosphatase (p<0.05), and albumin levels (p<0.001) compared to hemodialysis patients. Prevalence of atherosclerosis was found in 66.3% patients including all diabetic population. Patients with atherosclerosis were older (p<0.001), had a higher phosphate level (p=0.012), pulse pressure (p=0.01) and Ci (p=0.034). Multiple regression analysis showed age, diabetes, phosphate, Residual Renal Function (RRF), and HD modality, as independent parameters associated with atherosclerosis.

Conclusion: Our study showed metabolic abnormalities secondary to renal failure as risk factors for atherosclerosis. We demonstrated a novel, independent association between Phosphate, RRF, HD therapy and atherosclerosis. Better preservation of RRF in PD, results in an improved phosphate control is most probably an explanation of such finding.

PP – TH – 049

THE INFLUENCE OF THE DURATION OF HEMODIALYSIS ON CALCIUM, PHOSPHORUS AND ALAKALINE PHOSPHATASE LEVEL

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Backround: Chronic kidney disease (CKD) includes a wide spectrum of different pathophysiological processes associated with abnormal kidney function and progressive decline of glomerular filtration rate (GFR). Chronic kidney disease is a major public health problem in Kosovo and throughout the world. Disturbances in mineral metabolism and bone disease are common complications of CKD and an important cause of morbidity and decreased quality of life in patients with CKD.

Methods: This is a cross sectional study done at Clinic of Biochemistry, University Clinical Center of Kosovo (UCC). 48 CKD patients divided in three groups (I Group < 5 years in Hemodialysis, II Group 5-10 years in Hemodialysis and III Group > 10 Years in Hemodialysis) were studied. Serum levels of Calcium, Phosphorus and Alkaline Phosphatase (ALP) were performed and mesaured in biochemical analyzer "I-Lab 650" – by Instrumentation Laboratory. All patients of the three research groups were treated in Clinic of Nephrology at UCC. Venepuncture is done in the morning before application of hemodialysis.

Results: In first study group the mean values of Calcium (2.33 ± 0.11 mmol/l), Phosphorus (1.5 ± 0.41 mmol/l), and ALP (99.7 ± 39.10 U/L). In second study group the mean values of Calcium (2.53 ± 0.13 mmol/l), Phosphorus (1.39 ± 0.47 mmol/l), and ALP (105.5 ± 47.10 U/L). In the third study group we have found mean values of Calcium (2.47 ± 0.21 mmol/l), Phosphorus (1.55 ± 0.64 mmol/l), and ALP (235.8 ± 209.10 U/L)

Conclusion: Based on our results ALP concentration is increased with duration of dialysis, which means that dystrophic changes in bone worsen with disease progression. There is no significant difference in calcium and phosphorus levels between three groups of patients.

PP – TH – 050

SERUM HEPCIDIN-25 LEVELS CORRELATION WITH HEMOGLOBIN, FERITIN AND IRON IN HEMODIALYSIS PATIENTS – A PILOT STUDY

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Aim of the study: Hepcidin-25 is synthesized predominantly in the liver, circulates in the blood and is excreted by the kidneys. This peptide hormone plays a central regulatory role in iron (Fe) homeostasis – it binds to the celular Fe exporter ferroportin and induces internalization

and degradation of ferroportin. Hepcidin and Fe storage protein ferritin are also inflamatory markers. The aim of this work was to investigate the association between hepcidin-25, ferritin, hemoglobin and Fe in hemodialysis patients.

Methods: Serum levels of the biologically active hepcidin-25 (measured by chemiluminescent direct ELISA), ferritin (immunoturbidimetry) and Fe (spectrophotometry), as well as blood hemoglobin (spectrophotometry) were determined in 42 hemodialysis patients (HD group, 26 men and 16 women), and in 9 healthy individuals (control group, 5 men and 4 women).

Results: The median hepcidin-25 concentration was significaly higher ($p<0.05$) in HD group (47.37 ng/ml, 95%CI 33.91-59.38) compared to control group (10.16 ng/ml, 95%CI 9.33-19.46). In HD group the following results were obtained: median ferritin concentration 466.65 (95%CI 272.85-631.20), mean Fe concentration 13.11 μmol/L (SD 3.91) and mean hemoglobin concentration 108.01 g/L (15.21). In HD group significant correlation was found between hepcidin-25 and ferritin levels ($r=0.876$ for men and 0.874 for women, both $p<0.001$), as well as negative correlation between hepcidin-25 and hemoglobin (-0.598 for men and -0.535 for women, both $p<0.05$).

Conclusions: The results of this pilot study indicate that hepcidin-25 level is elevated, possibly due to inflamation, in hemodialysis patients, and that may lead to disturbances in iron metabolism and anemia.

PP – TH – 051

TRANSFORMING GROWTH FACTOR–β1 LEVELS IN PERITONEAL DIALYSIS EFLUENT

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Introduction: Transforming growth factor β1 (TGFβ1) is the prototypical cytokine associated with fibrinogenesis in various pathophysiological condition. One of them is peritoneal fibrosis in patient undergoing long-term peritoneal dialysis (PD). If can be hypotezised that measurement of TGFβ1 in PD effluent might serve as a non-invasive marker of this condition.

Aim: Study evaluated the significance of correlation between TGFβ1 PD effluent concentration and serum levels as well as with age and PD duration.

Subject: A group of 30 PD patients mean age 54 (range 28-68) years, 22 males and 8 females were tested. All participants had been on continuous ambulatory PD at last 6 month before recruitment. All participants were free of peritonitis for at least 30 day before the examination. Previous history of peritonitis was recorder in 9 patients. Tasting blood samples were centrifuged at 1500g for 10 min. to separate serum. Peritoneal effluent was collected from an overnight dwell. TGFβ1 was measured by commercial ELISA kit (R&Dsystems).

Results: The patients performed adequate dialysis with creatinine clearance (mean ± standard deviations) of 58.34±13.78L/week and Kt/V 1.89±0.34. TGFβ1 concentrations were 25.23±16.25 ng/mL in serum and 1.26±0.34ng/mL in effluent . No significant correlation was observed between TGFβ1 concentration in effluent and serum, nor age and PD duration.

Conclusion: The obtained data failed to association between TGFβ1 serum and PD effluent levels. In addition no relationship was observed between TGFβ1 effluent levels and age or PD duration.

PP – TH – 052

HEPCIDIN AND HEMODIALYSIS PATIENTS IN OXIDATIVE STRESS

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Chronic kidney disease (CKD) is characterized by complex changes in cellular metabolism, leading to oxidative stress (OS), expressed as increased production of oxidative radicals (OR), which can play a key role in a number of clinical complications of this pathology. It has been shown that patients with CKD have at significantly higher risk of cardiovascular diseases (CVD), atherosclerosis and cancer than age-appropriate people of the total population. Trace elements Fe, Se, Cu, and Zn play a major role in the antioxidant defense system.

We included 61 chronic dialysis patients. They were monitored for OS parameters – GPX, Se, Fe, and Cu. Serum hepcidin levels were quantified, as this peptide is a key regulator of iron homeostasis. All results were compared to age and gender matched healthy controls. Statistical methods were used to describe significance and correlations between parameters.

We found elevated serum hepcidin and Fe levels in CKD patients (35.8 ± 5.9 μmol/L, and 214.5 ± 48.8 μg/L). Plasma Se and GPX concentrations were decreased (422.6 ±57.8 nmol/L, and 7.8 ± 1.6 U/gHb). A negative correlation between hepcidin and GPX was established ($r = -0.879$, $P < 0.001$).

Evaluation of serum hepcidin levels in OS dialysis patients is important. It will help to find the exact way to influence therapy in CKD cases, where OS occurs.

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PP – TH – 053

MARKERS OF INFLAMATION AND MORTALITY IN PATIENTS ON RENAL REPLACEMENT THERAPY

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Introduction: Atherosclerosis, a major problem in patients on chronic hemodialysis, has been characterized as an inflammatory disease. The aim of this study was to evaluate the relation of the inflamatory markers with mortality in patients with end stage renal disease on renal replacement therapy

Methods: A case control study was conducted enrolling all patients on chronic dialysis (HD and PD) older than 18 years who had more than 3 months in therapy. Plasma levels of albumin (Salb) C-reactive protein (CRP), fibrinogjen were measured using routine methods. All patients had been followed up for 2 years and the end point was overall and cardiovascular mortality.

Results: Our dialysis population studied consisted in 122 pts, 78 pts (61%) on hemodialysis, mean age 53.4±14.5 years and mean time on therapy was of 40.4 ± 14.4 months. In labs serum albumin result 3.28±0.46 g /dl, CRP 8.4 ± 8.36 mg/L , fibrinogjen 551.2 ± 116.1. Overall mortality was 27 events (22%) while cardiovascular mortality was 15.5% (19 events). The main causes of CV death were sudden deaths (31.5%), deaths from ischemic heart disease and stroke with 26.4% respectively. Binary logistic regression analysis showed that CRP [OR= 1.06 (1.01-1.10) p=0.011], was independent risk factor for cardiovascular mortality. It was found an increase of 6% of cardiovascular mortality for each unit increase of CRP [OR=1.06(1.01-1.10) p=0.011]. Meanwhile albumin levels below 3g/dl represent a independent risc factors with a risk 3.7 higher for overall mortality (p=0.024)

Conclusion: CRP and serum albumin are independent predictors of cardiovascular mortality and overall mortality respectively in patients on renal replacement therapy.

PP – TH – 054

NUTRITIONAL STATUS OF HEMODIALYSIS PATIENTS: BIOCHEMICAL VERSUS ANTHROPOMETRIC NUTRITION INDICATORS

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Introduction and aims: Several markers of nutritional status are found to be associated with worse clinical outcomes and increased rates of mortality in patients undergoing maintenance hemodialysis (MHD). Aim of this study was to assess the prevalence of malnutrition comparing biochemical and anthropometric nutrition indicators and to evaluate the prognostic value of different indicators of malnutrition between MHD patients.

Methods: This was a prospective study with 24 months follow-up (mars 2014-september 2015) of 73 MHD patients. Mean age at start was 53.3±12.4 years, mean dialysis vintage 5.8±3.5 years. The nutritional status of the study participants was assessed by biochemical indicators as serum albumin, serum creatinine, serum cholesterol; and anthropometric indicators as body mass index (BMI).

Results: We found 19.1% patients had a serum albumin <3.8 g/dl, the "risk for malnutrition" group. We found 9.7% patients had a BMI <18.5, the "severely malnourished" group and 41.7% had a BMI 18.6-23, the "mildly malnourished" group. During the study period 14 (19.2%) patients died. The Cox Regression Analysis showed: low serum creatinine (HR [95% CI] 0.592 [0.371-0.937]; p=0.001 was a significant independent predictor of mortality. Serum albumin, serum cholesterol, and BMI didn't show significant correlation with mortality.

Conclusions: Even though BMI is widle used in general population to assess the nutritional status, in hemodialysis patients biochemical indicators are important predictors of worse outcome and should be assessed frequently.

PP – TH – 055

HEMATURIA IN AUTOSOMAL DOMINANT POLYCYSTIC KIDNEY DISEASE

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Gross hematuria has been commonly reported in autosomal dominant polycystic kidney disease (ADPKD). It is not only common but it can trigger the diagnosis in 13% to 23% of adult ADPKD subjects, influencing renal dysfunction.

In a study with 180 patients was studied the frequency and impact of gross hematuria on the progression of renal failure in our ADPKD.

Hematuria was present in patients 113 patients (63%): 67 patients were females (16 of them underwent to renal loss), and 46 were males (12 of them underwent to renal loss). about, resulted that gross hematuria was present in In 39 patients gross hematuria was due to renal cyst rupture into the renal pelvis, in 52 patients the renal calculi were the cause of gross hematuria. Having at least one episode of gross hematuria before age 30 was associated with a worse renal survival than not having such an episode (10-year difference in renal survival; $P < 0.001$). The difference in survival for those who had gross hematuria before age 30, compared with those who did not have this experience, was significant either for women or men (the difference in 9-year renal survival, $p < 0.001$ and 12-year, $p < 0.001$ respectively).

These data suggest that patients with recurrent episodes of gross hematuria may be at risk for more severe renal disease since the mean age of the first episode of hematuria occurred on average at 30 years, considerably earlier than renal functional deterioration occurs.

PP – TH – 056

BACTERIOLOGICAL FINDINGS OF URINARY TRACT INFECTIONS IN AUTOSOMAL DOMINANT POLYCYSTIC KIDNEY DISEASE

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Aim. The aim of this study was to evaluate the bacteriological findings and the frequency of urinary tract infections in autosomal dominant polycystic kidney disease (ADPKD) and their impact on renal function.

Methods. One hundred eighty patients with autosomal dominant polycystic kidney disease were studied. Subjects were considered as having urinary tract infections if they had had one or more episodes of urinary infection. The antibiotic therapy for the treatment has been adapted according to the bacteriological findings.

Results. Urinary tract infections were observed in 60% of our patients (108 patients), and were more frequent in women than in men. Gram negative enteric organisms typically caused the infections. Blood culture was positive in 10%, while urine culture was negative in 40%. The episodes of isolated cyst infections (negative urine culture and absence of white blood cell casts in urinary

sediment) were more frequent than those of acute or chronic pyelonephritis (urinary sediment was positive for white blood cell casts).

Conclusion. We conclude that urinary tract infections are frequent in our patients with autosomal dominant polycystic kidney disease. Distinguishing between cyst infection and acute or chronic pyelonephritis is often a challenge, and the diagnosis relies mainly on clinical and bacteriological findings.

PP – TH – 057

HBV AND HCV SCREENING IN A TIMELY MANNER AMONG HAEMODIALYZED PATIENTS FROM NINE DIALYSIS UNITS IN REPUBLIC OF MACEDONIA DURING THE PERIOD 2014/2015

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Background: HDC "Diamed-Macedonia" (nine HD units), Skopje (2) and Eastern Macedonia(7) provides HD treatment of patients 677(2014) or 717 (2015). Timely screening HBV/HCV for preventing HBV/HCV transmission among patients from nine dialysis units in a two-year period 2014/2015 was the main aim of this work.

Material and methods: All 717 patients were examined within HDC"DMKD" at a two-year interval. Serum samples were used for: detection of HBs antigen, and HCV antibodies. The rapid test and ELISA method were used within our lab. All suspicious samples were confirmed with PCR-method.

Results: Prevalence of HCV/HBV of the HDC records an overall decline of 35.2% (2014) to 29.4% (2015). Moreover it was found that HCV decreased significantly, from 30.0% (2014) to 24.7% (2015). Appearance of new cases of HBV/HCV from current patients were not noticed within "DMKD". All newly diagnosed patients (total 5) were obtained on the first analysis in our lab, though they were accepted as sero-negative from another lab or HDC.

Conclusions: Implementation of the timely testing of patients for HCV/HBV principally for (each new - or transferred) patient prior to starting dialysis within HDC and also hepatitis B immunisation for both personnel and patients must be mandatory. So it will reduce opportunities for patient-to-patient transmission of infectious agents, directly or via contaminated devices, equipment and supplies, environmental surfaces or hands of the personnel indirectly as well as for an adequate performance of the therapy.

PP – F – 058

OPG AND RANKL IN PATIENTS WITH THALASSEMIA MAJOR IN THE CENTER OF HEMOGLOBINOPATHY, LUSHNJA, ALBANIA

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Introduction: Albania is a country with a high endemicity of β- thalassaemia. According to the partial screening made during the study of 2007s the frequency of β-thalassaemia carriers is about

7%. Osteoporosis is an important cause of morbidity. It is characterized by low bone mass and disruption of bone architecture, resulting in reduced bone strength and increased risk of fractures. Osteoprotegerin (OPG) and receptor activator of NF-kappa-B ligand (RANKL) have been recently implicated in the pathogenesis of various types of osteoporosis.

The aim of this study is to evaluate the role of serum OPG/RANKL ratio in patients suffering from thalassaemia major complicated with osteoporosis.

Materials and Methods: We measured in 42 thalassemic patients and in 17 healthy control subjects, serum OPG and RANKL levels and determined correlations with bone turnover markers, BMD and ferritin.

Results: 15% of thalassemic patients have osteoporosis. We found a correlation between OPG-BMD (r=0.488, p=0.000) and RANKL-BMD (r=-0.179 dhe p=0.048). OPG-T-score (r=--0.457. p=0.000) We have found a negative correlation OPG-FE (r=--0.225, p<0.01). RANKL-OPG (r=--0.256, p<0.004). We didn't find correlation between OPG-β-CrossLaps (r=0.067, p=0.45) and RANKL- β-CrossLaps(r=0.14. p=0.122).

Conclusion: OPG/RANKL ratio in thalassemic patients should be consider as a main factor responsable for osteoclast activation.

PP – F – 059

STUDY OF PARATHYROID HORMONE, TOTAL CALCIUM, PHOSPHOROUS, CREATININE AND UREA IN KOSOVAR PATIENTS UNDER REGULAR HAEMODIALYSIS

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Background: Chronic kidney disease nowadays is becoming one of the major public health problems. Kidney plays an important role in the mineral metabolism and patients with chronic kidney disease have major disturbances in their homeostasis of calcium and phosphate with associated changes in Parathyroid Hormone (PTH) secretion.

Objective: The aim of the study was to assess changes in Serum PTH, Total Calcium, Phosphorous, Creatinine and Urea in chronic kidney disease patients under regular haemodialysis and control group.

Methods: We retrospectively evaluated laboratory parameters of serum urea, creatinine, calcium, phosphorus and PTH in 56 patients (27 male and 29 female), who underwent hemodialysis in the Clinic of Nephrology at University Clinical Center. 30 healthy subject age and sex matched without kidney disease were used as controls. The age range of both groups was 17- 60 years.

Results: PTH, phosphorus, urea and creatinine values was significantly higher in hemodialysis patients than in control group. Total Calcium values were within reference values but slightly higher than in control group, but with no significant importance. Total protein and albumin values were lower comparing to the values of the control group. Albumin shows slight statistic significance.

Conclusion: Serum levels of calcium, phosphorus and PTH should be measured regularly in all hemodialysis patients. The frequency of these measurements should be based on the stage of chronic kidney disease. Elevated serum PTH and phosphorus levels were associated with increased risk of complications and their determination is important for the evaluation and monitoring of the patients in hemodialysis.

PP – F – 060

CALCITRIOL APPLICATION IN PATIENTS WITH CHRONIC RENAL INSUFICIENCY. SECONDARY HYPERPARATHYROIDISM AND OSTEODYSTROPHY

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Introduction: In patients with chronic renal insufficiency, most important changes occur in phosphorous and calcium metabolism, causing the reduction of the active vitamin D, increasing the activity of the parathyroid gland, reducing the level of serum ionized calcium, and raising phosphoremia.

Material and methods: The study followed 80 patients, of which 22 finished the study. The group includes 11 men and 11 women, positive (Hepatitis C) and negative patients. The duration of treatment with hemodialysis is from 8 to 24 years, three times per week for four hours. Laboratory and RTG tests were done. Patients were treated with calcitriol from 0.25 to 0.5 mcg per day.

Results and conclusions: After treatment with Calcitriol, we have seen significant improvement of symptomatic status in patients with osteodystrophic changes and reduction of the overall parathormon (895-400ng/ml), hypocalcaemia (2,2-1.9mmol/l) reduction of ALP(300-220) hypophosphatemia(1.38-0.60mmol/l) and hypermagnezemia (1.15/1.25mmol/l). I want to emphasize that the level of parathormon slowly reduced in patients who develop parathyroid adenoma glands. This group included five patients who were operated by adenoma and the results were 40% improved. This values represent variability within six months. It does not affect pruritus, which is important cause for suicide. Statistical data show that cause of morbidity is soft tissue damage and cardiopulmonary diseases.

PP – F – 061

ASSOCIATION OF VITAMIN D LEVELS WITH MULTIPLE SCLEROSIS

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Introduction: Vitamin D plays an important role in developing healthy bones, but researchers are also starting to uncover a potential relationship between vitamin D deficiency and an increased risk of developing multiple sclerosis (MS). Multiple sclerosis is a disease of the central nervous system characterized by demyelination of the nerve sheaths which can result in varying levels of disability.

Objective: The aim of the study was to assess the association between 25 (OH) D and MS.

Methods: The study involved 60 patients aged < 74 year, admitted at Clinic of Neurology at University Clinical Center of Kosovo and diagnosed with MS.

Results: Most patients with MS have serum vitamin D levels that are significantly low when compared with the recommended norms. In a study of 60 patients with MS, nearly 97 % of the patients did not reach the recommended level of Vitamin D. 82 % of the patients were found to have vitamin D insufficiency, with levels of

vitamin D below 30 ng/ml and 15% in a state of deficiency (<10 ng/ml).

Conclusions: MS occurs more frequently in individuals with lower blood levels of vitamin D. The findings of our study indicate that identifying and correcting vitamin D insufficiency should become part of the standard of care for newly diagnosed MS patients. Further prospective studies are needed to identify vitamin D levels during the various phases of MS and to determine whether correcting vitamin D may affect the incidence or even the course of the disease.

PP – F – 062

DETERMINATION OF VITAMIN D LEVEL IN DIFFERENT SEASONS IN BULGARIA

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Aim: Vitamin D has been studied very intensively in terms of optimal level and deficiency. In the course of one year we studied volunteers throughout the country during months of 2014 and 2015. To determine the deficiency and optimal concentration, the levels generally accepted in the European literature are used.

Material and methods: A total of 3098 adult volunteers, who wished to establish the concentration of vit D, were studied. Vitamin D was determined by HPLC method with UV- detection. The assay method has been developed and validated as required by the European Medicines Agency in Ramus laboratory, accredited under ISO 17025:2006

Results:The lowest average value of Vitamin D was established in January (20.50 ± 10.53ng/ml) and February (21.31 ± 10.33 ng/ml) and highest in August (30.03 ± 10.88ng/ml). Our data suggest that only one individual is with severe deficiency <10.0 ng/ml in January; 1953 in total (63.9%) are with moderate deficiency - between 10,0 and 25,0 ng/ml 840 of whom (27.1%) in 2014 and 1139 (36.8) in 2015; 1135 (36.5%) in total are with optimal level - between 25.0 and 80.0 ng/ml 552 (17.8%) of whom in 2014 and 583 (18.8) in 2015

Conclussion:The results obtained by us show a high percentage of D2 hypovitaminosis, under the optimal level, especially in winter and early spring, regardless of the good geographical position of our country.

PP – F – 063

DETERMINATION OF VITAMIN D

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Objective: Vitamin D is a fat-soluble steroid prohormone. The deficiency of this vitamin can be associated with rickets in children. In the case of adults that is linked to osteoporosis and secondary hyperparathyroidism, also an increasing risk of diabetes, cardiovascular or autoimmune diseases as well as various forms of cancer.

The aim of the research is determining the values of serum vitamin D in our population during the different periods of the year.

Material and methods: Our target groups were 178 adults in age limit 21-49 years and 45 children in age limit 3-7 years. We examined it each month for a period of one year and determined 25 OH Vitamin D total in serum using the enzyme linked fluorescent assay.

Results: The values for the whole population of vitamin D were in the range 20,7-32,0 ng/ml depending on the month of the year. We found 25,3 ± 4,2 mg/ml vitamin D in adults and 47,5 ± 7,8 mg/ml vitamin D in children.

Conclusion: The concentration of serum vitamin D in adults is insufficient or sufficient depending on the different month of the year. But the concentration of vitamin D in children is sufficient all of the months because of supplement taking.

PP – F – 064

NEWBORN SCREENING FOR CONGENITAL HYPOTHYROIDISM

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Introduction: There are more than 30 years after the introduction of the first neonatal screening programs for congenital hypothyroidism making neonate screening for this disorder the most successful population for screening in pediatrics. In the developed world, nearly all cases of congenital hypothyroidism are detected by the newborn screening program.

Unfortunately, there are 70% of babies worldwide who are born in areas without screening programs. The majority of babies with CH in Kosovo there are not detected and treated early, and this remains a significant public health challenge.

Methodology: Testing of fT4, TSH, thymoglobulin, ultrasonography and scintigraphy of thyroid gland.

Results: The average age of diagnosis of CH is 4 months +/- 4.5. This late age of CH diagnosis certainly suggests the poor outcomes for the neurocognitive development of the children.

Case presentation: 2 months old girl, weight 5.1 kg (p.50), length 54 cm (p.10), with clinical signs of hyperbilirubinemia, large fontanels and hypotonic, distended abdomen with umbilical hernia, macroglossia and ascites was tested for the first time at that age for hypothyreosis. Laboratory testing: TSH>1000mU/l (0.54 - 4.21), fT4 0.89 pmol/l (10.3-25.8), thyroglobulin<0.2ng/ml(0.2-70), AST 208 IU/l, ALT 86 IU/l, GGT186 IU/l, CK 1602 IU/l, total bilirubin 44.8 µmol/l, cholesterol 8.6mmol/l, ultrasonography and scintigraphy with iodine (123) identifies agenesis of thyroid gland, knee radiography shows absence of distal femoral epiphysis

Conclusion: Neonatal Screening Programs for congenital hypothyroidism (CH), is one of the major achievements of medicine because early diagnosis and treatment has resulted in normal development in the vast majority of cases. A public health mandate should be to develop screening programs for CH in developing countries such as Kosovo

PP – F – 065

FOLLOWING THE SERUM LEVELS OF CREATINE KINASE IN OVERT AND SUBCLINICAL HYPOTHYROIDISM

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Background: The aim of this study was to determine serum levels of creatine kinase (CK) in overt and subclinical hypothyroidism. To investigate the change in CK levels with treatment and to evaluate the relationship between free triiodsothyronine (FT3), free thyroxine (FT4), and thyrotropin (TSH) levels and the degree of skeletal muscle involvement, as determined by serum CK levels. Patients with other causes of CK elevation were excluded.

Materials and methods: We included 26 patients (24 women and 2 men, ages 40.65 +/- 12.55 years) with overt hypothyroidism, 36 patients (35 women, 1 man, ages 41.55 +/- 10.45 years) with subclinical hypothyroidism, and 30 age- and gender-matched controls (27 women, 3 men, ages 40.81 +/- 11.20 years) in the study. Serum levels of TSH, FT4, FT3, and CK were measured in all subjects.

Results: CK elevation was found in 17 patients (58%) with overt hypothyroidism and in 4 patients (10%) with subclinical hypothyroidism. Although a statistically significant elevation of CK levels was found in patients with overt hypothyroidism when compared with patients with subclinical hypothyroidism and controls (p=0.0001, p=0.01, respectively), no difference was found between the subclinical hypothyroidism and control groups (p = 0.14). In hypothyroid (overt and subclinical) patients, a positive correlation was found between CK and TSH (r = 0.422; p = 0.04), and a negative correlation between CK and FT3 (r = - 0.526; p = 0.002) and between CK and FT4 (r =0.437; p = 0.04).

Conslusions: CK levels decreased to normal levels after thyroid function normalized with treatment. In conclusion, skeletal muscle is affected by hypothyroidism more profoundly in cases of overt hypothyroidism, less so when subclinical hypothyroidism is present.

PP – F – 066

5ALPHA-REDUCTASE ACTIVITY IN INFANCY AND CHILDHOOD

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Introduction: The steroid hormone cascade involves metabolic activity of different enzymes e.g 5α-reductases (5αR) responsible for the conversion of testosterone (TT) to dihydrotestosterone (DHT).The aims of this study is to determine the role of the testosterone (TT) to dihydrotestosterone (DHT) ratio (TT/DHT ratio) in the evaluation of 5alpha-reductase activity.

Method: In 170 male patients from infancy to adulthood was measured levels of TT and DHT. In 50 cases from 8-13 years the level of TT

and DHT was measured before and after HCG stimulation.TT/DHT ratio was calculating in order to reflect 5alpha-reductase activity.

Results: In serum of patients was measured level of TT (0.81±0.11), DHT (16.4±4.3) and TT/DHT ratio (5.4±0.55). In 50 cases aged 8-13 years after HCG stimulation TT and DHT levels rose respectively TT (1.43±0.34), DHT (29.4±6.5) and TT/DHT ratio (11.8±1.3). In prepuberty boys the TT/DHT ratio was (6.7 ± 3.5) and after HCG stimulation (,9.1±5.4). In one genetic male neonate with ambiguous genitalia with high level of TT concentration the diagnosis of 5α-reductase deficiency was excluded by the normal T/DHT ratio before and after HCG stimulation.

Conclusion: In normal males, TT and DHT rise in parallel, and we have a constant TT/DHT ratio. It is a significant rise in the T/DHT ratio in puberty. After HCG stimulation TT, DHT, and the TT/DHT ratio rose significantly. The TT/DHT ratio before and after HCG stimulation may decide or exclude 5α-reductase deficiency in male infants whose TT and DHT are normally high.

PP – F – 067

ROLE OF 5ALPHA-REDUCTASE DEFICIENCY IN DISORDERS OF SEX DEVELOPMENT (DSD)

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Introduction: 5-alpha-reductase deficiency is a rare disorder characterized by incomplete differentiation of male genitalia in 46, XY patients. 5-alpha-reductase converts testosterone to the dihydrotestosterone (DHT). Because DHT is required for the normal masculinisation of the external genitalia in utero, genetic males with 5-alpha-reductase deficiency are born with ambiguous genitalia (46, XY DSD).

Methods: TT, dihydrotestosterone (DHT) and TT/DHT were evaluated in serum of 6 cases of ambiguous genitalia with 46 XY, 4 in neonates and 2 cases in puberty. TT/DHT ratio was calculating in order to reflect 5-alpha-reductase activity.

Results: In 2 neonates patient we observed a high level of TT and DHT, and TT/DHT ratio was normal. In 2 other cases the level of TT and DHT was normal. After the HCG stimulation we observed an increase in the level of TT in all cases and in 2 of them we had a TT/DHT ratio >27. In 2 cases in puberty we observed a high level of TT and DHT and a normal TT/DHT ratio before and after HCG stimulation.

Conclusion: In conclusion T/DHT ratio can help in investigation of 46, XY patients with ambiguous genitalia and normal testosterone synthesis. T/DHT ratio can be used to select newborns affected by 5alpha-reductase deficiency. 5α-reductase deficiency should be included in the differential diagnosis of all newborns with 46, XY DSD with normal testosterone production.

PP – F – 068

POLYCYSTIC OVARY SYNDROME AND THE RELATION WITH 5ALPHA-REDUCTASE

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Introduction: The Polycystic ovary syndrome (PCOS) is generally characterized by the presence of polycystic ovaries, hyperandrogenism, by clinical and / or biochemical androgen excess. The steroid hormone cascade involves metabolic activity of different enzymes e.g 5α-reductases (5αR) responsible for the conversion of testosterone (TT) to dihydrotestosterone (DHT). This study intended to determine the 5alpha-reductase activity in PCOS patients by calculating the TT/DHT ratio.

Methods: In 50 cases diagnosed as PCOS, based on Rotterdam criteria we measured the serum levels of luteinizing hormone (LH), follicle stimulating hormone (FSH), total testosterone (TT) and DHT. TT/DHT ratio was calculated in order to reflect 5alpha-reductase activity.

Results: In 50 cases of PCOS patients we measured the level of TT (0.87±0.79) (ng/ml), DHT (29.9±11.8)(ng/dl), FSH (5.7±2.06)(UI/L), LH (12.7±10.2)(UI/L). We calculate LH/FSH ratio (2.3±1.2) and TT/DHT ratio (3.1±1.7).PCOS patients showed significantly higher levels of TT than control group. The TT/DHT ratio was significantly higher in PCOS patients (P < .005). No difference was found for total DHT levels.

Conclusion: Testosterone, LH, LH/FSH ratio, TT/DHT ratio raised in women with PCOS. Our data show that COS is a condition accompanied by high level of TT and a higher TT/DHT ratio in serum of patiens , Increased 5alpha-reductase activity could contribute to the development of PCOS by amplifying androgen action.

PP – F – 069

DIHYDROTESTOSTERONE AND 5ALPHA -REDUCTASE IN HIRSUTISM

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Introduction: Hirsutism is a common clinical condition seen in female patients of all ages accompanied with hyperandrogeneism. The cause of hyperandrogeneism may be ovarian or adrenal or just idiopathic caused by increased 5-alpha-reductase activity. This enzyme converts plasma testosterone to the androgen metabolite dihydrotestosterone..

Methods: Serum total Testosterone (TT) , Dihydrotestosterone (DHT) ,DHEA-S, were measured in 50 women age 17-40 years , The clinical appearance of hirsutism it was determined according to the Ferriman-Gallwey-Score.

Results: In 50 causes examined 76% have hirsutism associated with high levels of testosterone mean (0.99 ±0.44) and 24% with normal level of TT(0.04-0.81). 71% of patient with hirsutism was accompanied with PCOS, high level of TT and LH/FSH ratio >2.98 .DHEAS mean 258±111, were higher in 11.4%. Levels of DHT measured mean (31.8 ±3.11) was increased in 28 % of patient with hirsutism and in 25 % of

patient with normal levels of TT and significantly higher than normal patient.

Conclusion: In conclusion the blood level of DHT was higher in patients with hirsutism and normal levels of androgen which represents an increase of 5 alpha reductase activity. However serum levels of DHT may be normal in idiopathic hirsute women probably because most DHT produced in peripheral is not secreted into the circulation but acts locally. In patients with hirsutism, and particularly idiopathic hirsutism, 5 alpha-reductase activity is high without an increase in circulating androgens.

PP – F – 070

NEW LABORATORY BIOMARKERS IN PREECLAMPSIA, OUR EXPERIENCE

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Background: There is growing evidence that angiogenic growth factors such as placental growth factor (PlGF) and soluble fms-like tyrosine kinase-1 (sFlt-1) play a signficant role in the development of preeclampsia.

Method: 223 preeclampsia women and 122 normotensive, healthy pregnant women in 24-36 week of singleton pregnancies were involved in this study. Serum was analysed for PlGF and sFlt-1 using the Roshe-Elecsys2010 assay to obtain a sFlt-1/PlGF ratio, according to the manufacturer's instructions.

Results:The study found that log [SFLT 1 / PIGF] has the sensitivity,specificity ,VPP , VPN and PLH higher compared to PIGF and SLFT in forecasting severe preeclampsia . During the period of 24-36 weeks ratio log [sFlt - 1 / PlGF] with cut- off value>0.9 with 95.7 % sensitivity and 92 % specificity (p< 0:01) has the ability above predictive of severe preeclampsia .Women report log [sFlt - 1 / PlGF] > 0.9 have a higher risk for developing severe preeclampsia (p < 0:01) .

Conclusions: The sFlt-1/PlGF ratio is a better predictor than either of these parameters alone This was the first attempt to establish periodic values for preeclampsia biomarkers sFlt-1 and PlGF levels in Albanian laboratory medicine. In future these biomarkers will be the first signals for preeclampsia development and help prevent its severe forms for a better outcome for the mother and baby health.

PP – F – 071

COMPARISON OF TWO ESTRADIOL CHEMILUMINESCENT IMMUNOASSAYS AND EVALUATION OF THE CORRELATION BETWEEN SERUM ESTRADIOL AND ULTRASOUND

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Introduction: The aim of this study was to compare the analytic performance of two different chemiluminescent immunoassays for estradiol (E_2) and verify the connection between E_2 value and ultrasound data in assisted reproduction.

Materials and methods: 100 women undergoing ovarian stimulation for IVF were recruited after obtaining informed consent; 300 serial blood samples were collected in conjunction of ultrasound. The samples were assayed on DxI

800 8Beckman Coulter) with Access Estradiol Assay and on Liaison (Diasorin). To evaluate the correlation between value of E_2 and ultrasound, the expected value of E_2 was calculated, considering number and size of ovarian follicles.

Results: Correlation between the two immunoassays was good, but correlation between serum E_2 and ultrasound was weak. The results lead to assess the need to have both ultrasound and E_2 in treatment of patients undergoing ovarian stimulation.

Discussion: In literature, some authors support ultrasound–only monitoring, because it's comparison with combined estradiol/ultrasound monitoring does not lead to significantly different results in terms of number of obtained oocytes and pregnancy rate at the end of the cycles of assisted reproduction.Other studies report that the value of E_2 is important to predict the number of retrieved oocytes and pregnancy rates per cycle.

It's important to have both ultrasound and E_2 in the treatment of patients undergoing ovarian stimulation. The integration of these clinical information can lead not only to detect the appropriate time for induction of ovulation, but also to avoid side effects, such as the ovarian hyperstimulation syndrome.

PP – F – 072

ACUTE PROMYELOCYTIC LEUKEMIA: THE DIAGNOSTIC VALUE OF MULTIPARAMETRIC FLOW CYTOMETRY IMMUNOPHENOTYPING

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Introduction: Acute promyelocytic leukemia (APL) is a distinct subtype of Acute myeloid leukemia (AML) with characteristic cytomorphology, maturation arrest at the promyelocytic stage of granulocytic differentiation and t(15;17)/PML-RARA gene abnormality that responses to treatment with all trans-retinoic acid (ATRA).

Aim: The objective of the study was to determine the diagnostic relevance of flow cytometry multiparametric immunophenotyping (FCMI) in APL patients in order to allow more clearly define immunophenotypic criteria separating APL from non-APL diagnosis.

Methods: A total of 248 bone marrow or peripheral blood samples of patients with AML were examined in Tirana, Albania, during 2010-2015.The applied methodology consisted of four color FCMI method.

Results: From 248 children and adults patients diagnosed with AML, 28 (11.2%) cases resulted APL. The mean age was 32.3 years old, (range 8 yrs to 62 yrs),13(46.4%), female and 15 (53.5%) male. Leukemic cells had the following phenotype: CD13 (92,8%), CD33 (100%), CD34 (14,2%), CD45 (100%), CD56 (7,2%), CD64 (60,7%), CD117 (53,5%), HLA-DR (3,5%), MPO (100%). A subset of cases showed also an aberrant expression of CD3 (21,5%).

Our results showed significant differences between APL and non-APL patients in CD34, CD117, HLA-DR, CD13, CD33, reactivity. Based on the immunophenotype and side scatter properties (SSC), three FC patterns were recognized. The majority of cases (46.4%) represented classical (hypergranular) APL and were characterized by high SSC, lack of CD34, CD117,and HLA-DR, heterogeneous CD13, and bright CD33. The second group (35%) represented intermediate SSC, lack of CD34 and HLA-DR, and positive CD117, CD64. Third group (17,8%) represented hypogranular APL with low SSC, positive CD117, dim to lack of CD34 and HLA-DR, bright CD13,CD33.

Conclusion: FCMI plays an important role in identifying cases highly suggestive of APL.

PP – F – 073

ANA POSITIVE, HOW IS USEFUL IN DIAGNOSIS OF DIFFERENT PATHOLOGIES

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Background:The antinuclear antibody (ANA) test is widely used as a serological marker of Systemic Rheumatic diseases (SRD) . Not only are these antibodies involved in the disease pathogenesis, but they also constitute the basis for diagnosis of SRD. In addition, some cases with non -Autoimmune Conditions (non- AC), acute or chronic infectious diseases can have a positive ANA test. Aim of the study was to determine the positivity and the intensity of ANA using Indirect Immunofluoresence method in two study groups (SRD and Non-AC) in adults and children .

Material: This prospective study was conducted during the unual period time of 2015, included 1263 adult patients , 634 of them with SRD and 452 children, 270 of them with SRD.

Results: The positivity of ANA resulted in adult patients for SRD and non-AC respectively 68.7% (n=436) and 52.6% (n=331). In children positivity of ANA resulted 52.2% (n=141) for SRD and 45.6%(n=83) for non-AC. The expressed intensity (+++ or ++++) of fluoresence in SRD adult patients was 47.8% (n=303) and for non-AC resulted 17.2% (n=108). In children with SRD versus non-AC, the expressed intensity of fluorescence resulted respectively 20.7% (n=56) and 13.7% (n=25).

Conclusion: The positivity of ANA with low intensity resulted relativily high for non-AC in two study groups, so we cannot take in consideration this for the diagnosis and prognosis of SRD. The expressed intensity of fluorescence is found in lower frecuency in children wih SRD, but this doesn't exclude juvenile rheumatoid arthritis, spondyloarthropathies, idiopathic inflammatory myopathies and vasculitides more frequent in children.

PP – F – 074

BETA 2-MICROGIOBULIN LEVEL IN HIV INFECTION; RELATION TO CD4 T-CELL AND PROGNOSIS

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Background/aim: Beta 2- macroglobulin (beta2-M) is a protein found on the surface of many cells, including white blood cells and increases during immune activation. It increases during infection with some viruses. Beta2-M is investigated to determine if its levels were elevated in our HIV infected patient population and if it could be used as a surrogate marker for disease progression.

Material and Methods: Beta 2-microglobulin levels were determined in the serum of 88 initially asymptomatic HIV infected patients (group I), presented to the Infective Service of University Hospital "Mother Teresa" of Tirana, 30 HIV sero-positives with clinical and/or laboratory proven STDs (group II) and 26 age and sex-matched sero-negative controls were studied too (group III). Serum beta2-M levels were measured

by chemiluminescent enzyme immunoassay using the IMMULITE® automated analyzer. Measurement of CD4 cell count was carried out on a flowcytometer using anti-human CD4 monoclonal antibody.

Mean +3 SD (3.04mg/l) of concentration of beta2M in sero-negative controls was chosen as threshold of abnormality.

Results: A significant rise (p<0.001) in mean beta2M levels (mg/l) from 0.87 +/- 0.05 (Group III) to 1.38 +/- 0.84 (Group I), and to 3.0 +/- 1.07 (Group II), was observed. There was a negative correlation between CD4 counts and beta2M levels (r-value-0.79, p value <0.001).

Conclusion: Higher values of beta2M result in the asymptomatic phase than controls and in the symptomatic versus asymptomatic phase, indicates that beta2M has a parallel progression with HIV disease, so it can be used as an alternative marker to determine HIV progression. As a result, it is a valuable marker for the clinical follow-up of patients.

PP – F – 075

EFFECT OF ANTIRETROVIRAL THERAPY ON APOPROTEIN B LEVELS IN HIV/AIDS SUBJECTS IN ALBANIA

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Background: Combined antiretroviral therapies (ART) are known to gives rise on Apoprotein B (ApoB) levels in subjects treated for HIV/AIDS.

Aim: Comparative evaluation of the ApoB levels at patients treated with PI (protease inhibitor) or non-PI (Nucleosid/non nucleoside transcriptase revers inhibitor).

Methods: This prospective study was carry out at University Hospital Center "Mother TERESA", which included adults patients diagnosed with HIV / AIDS, who are treated with one of two following treatment: (ZDV + Lamivudine or Tenofovir + Entricitabine) + an inhibitor of reverse transcriptase non-nucleoside (EFV) , which for convenience we have marked as (PI) schemes and other schemes comprising two axis of nucleoside + a protease inhibitor, or protease inhibitor schemes (PI+), from 2011 till 2013. Were included only the patients who had data on ApoB levels in Baseline and after, 6, 12, 24 months, in their file. The data were analyzed through the SPSS 17.

Results: We had studied 89 patients, which were measured ApoB levels. Patients who were treated with PI have a significant increased ApoB levels compared with patients who treated with non-PI. (The technique of correlation Kendall's tau_br = 0.123 p <0:05).

Conclusion: The increase of ApoB may serve as indicators for the risk of cardiovascular disease in HIV/AIDS patients on antiretroviral drugs.

PP – F – 076

SEROPREVALENCE OF TOXOPLASMA GONDI, RUBELLA AND CYTOMEGALOVIRUS AMONG PREGNANT WOMEN

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Introduction: Routine prenatal screening for some TORCH infections is done during the first trimester because patients who are seronegative can develop primary infection, which has the risk of vertical transmission to the fetus. The aim of this study was to determine the seroprevalence of these infections through antenatal screening in Tirana.

Method: In this study 287 sera from pregnat women were tested for anti body(IgM and IgG) to T gondi, rubella and CMV known to cause serious congenital infections, in Genius lab in Tirana. The tested women was betwen 18- 45 year old. Anti-Toxoplasma, anti-rubella and anti-CMV IgM and IgG antibodies were assayed by ELISA method using Abbott kits.

Results: A total of 287 pregnant women were tested for TORCH markers infections. Out of them 234 (81.5%) were tested for anti toxo-IgM, 121 pregnant women (42%) were tested anti-toxo IgG, 198 pregnant women(68.98%) were tested for anti-CMV IgM, 94 (32,75 %) were tested for CMV IgG, 97(33,79 %) were tested for rubella IgM and 39 (13,58 %) were tested for rubella IgG. Anti- IgM seroprevalence were found 0,85% for toxoplazma, 1.52% for CMV. Anti- IgG seroprevalence were found 16.53% for toxo, 92,3 % for rubella and 45,7% for CMV. Our data show that 92.31% of pregnant women tested, have passed rubella infection, 16.53% have passed toxoplama infection and 0.85% of pregnant woman are in acute faze of toxoplasma infection.

Conclusion: Widespread population screening may contribute to the prevention of congenital infections due to TORCH agents. Because of the high seropositivity of T. gondi, rubella and CMV in pregnant women, preventive measures should be taken.

PP – F – 077

SEROPREVALENCE OF VIRAL HEPATITIS B IN PREGNANT WOMEN IN TIRANA DURING 2015

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Introduction: Sexually Transmitted Infections (STI) are one of the biggest health problems throughout the world. Viral hepatitis makes up a large percentage of STI. Our country is among the endemic places where the expressed form of the infection is the hepatitis B virus.

Aim: To determine the specific percentage of viral hepatitis in pregnant women.

Material and Method: This paper includes all the pregnant women that have come to the laboratory of VCT (Voluntary Counseling and

Testing) to undergo testing from January to December 2015. The immune chromatography method was used in the membrane for qualitative detection: - of superficial antigen of Hepatitis B virus. To confirm the positive cases was used ELISA method.

Results: From the examinations we found out that 5.2% of the serums of pregnant women were positive for HBsAg. From the individuals examined in total (men and women), 7.7% were positive for HBsAg.

Conclusions: Prevalence of hepatitis in Tirana is at high levels among the population and among the pregnant women.

Viral hepatitis are still a concern for the public health. Ages varying from 23 to 45 are the most affected. So it is necessary a good management from family doctors and from doctors in the women's medical advisories, especially for this age group.

PP – F – 078

SEROEPIDEMIOLOGY OF VIRAL HEPATITIS B

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Introduction: Viral hepatitis is one of the leading causes of death across the globe, with a death toll estimated at 1.45 million in 2013 despite the existence of vaccines and treatments. Most deaths worldwide are due to hepatitis B and C, which can lead to severe liver damage or liver cancer. Hepatitis B in Albania is estimated to have an incidence of 8 – 10 %, but studies in several target groups have come up with higher numbers.

Material and methods: In our study we have included 4180 patients presented at the laboratory with non-specific gastrointestinal and/ or hepatic symptoms. All of them have gone through the laboratory examination for hepatitis surface antigen and antibodies against the hepatitis antigens (HBsAg, anti HBs, anti HBc IgM). Examination was done at our laboratories in Tirana from January 2014 to August 2015.

Results: Incidence of Hepatitis B during 2014 was 14.1%. Incidence of HBV was significantly higher in males compare to females. The average age for HBV positivity was 33.1 ±16.7 and there were no changes between infected males and females. Incidence of Hepatitis B during 2015 was 10.7%, significantly lower compare to 2014. During 2015 males had a higher incidence compare to females. Average age for HBV positive patients in 2015 was 32 years old. In 22 cases the result of the examination was not clear, but suspected (respectively 8 cases during 2015 or 0.4 % and 14 cases during 2014 or 0.6%). In 50 cases with a positive HBsAg there were 32 cases (62%) which resulted with anti HBs positive and only 2 cases which resulted with a positive anti HBc IgM.

PP – F – 079

TREND OF INFECTIONS TRANSMTTED BY BLOOD TRANSFUSION AMONG BLOOD DONORS

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Introduction: Blood and blood products for both transfusions and plasma derivatives, are essential therapeutics in modern medicine. The aim of this study is to evaluate the trend of infections transmitted through blood transfusion among blood donors.

Methods: In this study are included all blood donations collected between January 2010 December 2014 in all Albania. The donations were screened for HIV Ag/Ab combo,anti-HCV and HBsAg and syphilis using the chemiluminescence immunoassay (CMIA), Abbott Architect system. All samples resulted reactive with CMIA method for Syphilis and HIV, were confirmed by confirmatory test at National Reference Laboratory of Public Health Institute. In all reactive samples for Anti- HCV and HBsAg are not performed the confirmatory test.

Result: A total of 136072 donations were screening for infectious markers transmitted by blood transfusion (ITT) during study period. The prevalence of infective markers transmitted by blood transfusion in blood donors was 6.70%. While during study period, the prevalence of ITT variable form 6.99 % in 2010 to 7.96% in 2012 and decreased to 6.48% in 2014. These variation were statistical significant. Our data show that according to donors type the prevalence of ITT was respectively 1.28% in voluntary non remunerate blood donors, 5.4% in family replacement donors and 0.01% in repeat blood donors

Conclusion: Implementation a good quality control practice starting from history taking of blood donors and extending up to laboratory practices, can reduced more the prevalence of ITT in blood donors and minimize the risk of ITT to patients.

PP – F – 080

THE PREVALENCE OF HBsAg AND Anti-HCV IN ALBANIA BLOOD DONORS

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Introduction: Today the blood supply is safer and the risks associated with blood transfusion has been greatly reduced, in particular due to the obligatory screening of donations for the presence of infectious agents transmitted through transfusion. The present study show the prevalence of hepatitis B and C marker among blood donors for period of time 2010 -2014.

Methods: The donations were screened for anti-HCV, and HBsAg using the chemiluminescence immunoassay (CMIA), Abbott Architect system. A total of 136072 donations were screening for HBsAg and anti-HCV during this study period.

Results: From January 2010 to December 2014 Albania national blood transfusion service were collected a total of 136072 donations. Out of them 32410(23.82%) were voluntary non renumerate blood donations, 86528(63,58%) were family replacement blood donations, 17063(12.54%) paid blood donations and 71(0.06%) autologous

blood donations. Out of 136072 blood donations 1088 (0.8%) were positive for anti HCV, 7790 (5.72%) were positive for HBsAg. During the years the prevalence of HCV in 2014 compared with 2010 is in the same level, but compared with 2012 it was decreased from 1.01% in 2012 to 0.76% in 2014. The prevalence of HBsAg was increased from 6.15% in 2010 to 6.76% in 2012 and decreased from 6.76% in 2012 to 5.48% in 2014(p< 0.001)

Conclusion: The prevalence of HBsAg and HCV in blood donors has the decreased tendency. The decreased of the prevalence of HBsAg in blood donors is in the same trend as general population, but Albania remains a highly endemic country for hepatitis B.

PP – F – 081

PROCALCITONIN CONCENTRATION SIGNIFICANT IN SYSTEMATIC BACTERIAL INFECTION AND SEPSIS

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Background: Procalcitonin (PCT) is a peptide composed of 116 amino acid. It is synthesized in the thyroid gland as a prohormone of calcitonin. Low PCT concentration is produced in neuroendocrine cells of lung and small intestine. In healthy individuals the PCT is < 0.1ng/ml and is high negative predictive value for the exclusion of sepsis with the cut off value of 0.5ng/ml. A concentration between 2 and 10ng/ml indicates strong sepsis and value > 10ng/ml associated with septic shock.

Methods: From 01.January 2016 to 30.June 2016, 60 patients were grouped into three groups with 20 patients:
I group < 0.5 ng/ml diagnosis of lower respiratory tract infections
II group 2-10ng/ml diagnosis systematic bacterial infection
III group > 10ng/ml diagnosis sepsis or septic shock likely.

Serum levels of PCT were measured by immunochemiluminesce using Cobas e 411 Roche .

Results: I group: PCT 0.3 ± 0.05ng/ml
II group: PCT 6.6 ± 2.2 ng/ml
II group: PCT 36 ± 12.8ng/ml

Conclusions: Procalcitonin is a biomarker for bacterial infections and monitoring the progression of sepsis. Determination is important for monitoring antibiotic therapy and is useful as prognostic indicator of disease complication.

PP – F – 082

HEMATOLOGIC CHANGES IN VISCERAL LEISHMANIASIS

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Introduction: Visceral Leishmaniasis (VL) is a chronic infectious disease caused by parasites of the Leishmania Donovani (LD) that can cause various hematologic manifestations.

Objectives: The aim of the study was to evaluate the changes in blood count of patients diagnosed with Leishmaniasis at University Hospital Centre “Mother Teresa”, Tirana (UHCNT).

Methods: This is a retrospective cohort study. In our study were included n = 55 children who were admitted in the Pediatric infectious disease department of the UHCNT, aged 0-14 years diagnosed with VL (the diagnosis is confirmed by microscopic identification of LD in bone marrow aspiration) during january2012-july2013. We have evaluated the changes of red blood cells(RBC), hemoglobin(HB), white blood cells(WBC) and platelets(PLT). Our sample was divided in four groups by age (0-1, 1-3, 3-6, 6-).

Results: We have recorded RBC decline in 35/55(63.64%) in which 13/7(65%) were in group 0-1y.o., 11/16(68.75%) group 1-3y.o., 4/9(44.44%) group 3-6y.o., 7/10(70%) in group 6-14y.o.. WBC was decreased in all four groups: 12/20(60%) group 0-1y.o., 14/16(87.5%) group 1-3y.o., 6/9(66.66%) group 3-6y.o., 7/10(70%) in the last group. In total we have recorded 39/55(70.91%) of children with decreased WBC. Hb was decreased in 43/55(78.18%) of children in which 16/20(80%) group 0-1y.o, 10/16(62.5%) group 1-3y.o, 9/9(100%) group 3-6y.o and 8/10(80%) last group. Platelets were decreased in 41/55(74.55%) of children.

Conclusion: Hematological abnormalities in VL are common. A high degree of suspicion for VL needs to be maintained by the pediatrician and it should be included in the differential diagnosis of patients presenting with anemia,leukopenia,thrombocytopenia or pancytopenia; particularly in geographical areas where the disease is endemic.

PP – F – 083

INCIDENCE RATE AND ETIOLOGICAL AGENTS OF VENTILATOR ASSOCIATED PNEUMONIA IN THE PEDIATRIC CARE UNIT OF UNIVERSITY HOSPITAL CENTRE IN ALBANIA

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Aim: This study aimed to describe the rate, etiological agents, and outcomes of ventilator associated pneumonia (VAP) in the Paediatric Intensive Care Unit (PICU).

Methods: We performed a prospective study on the incidence of VAP in a single15 bed-PICU. Among six hundred and fifteen patients admitted to PICU, those who received Mechanical Ventilation (VM) for 48 hours or more were enrolled and monitored for VAP till discharge from PICU or death. VAP was defined as per CDC criteria.

Results: There were 42 episodes of VAP among 270 ventilated patients, with an incidence rate 6.8 per 100 admissions or VAP rate 16 per 1000 patients-days. The incidence, incidence density, DAR and DUR among patients using ET/MV was 15.5%, 18 %, 34.4 per 1000 VM- days, 0.52 respectively. The mean duration of mechanical ventilation was 10.5 days for VAP patients and 3.5 days for non-VAP patients (p=0.001).

The predominant isolates were Gram negative (n=30, 71.4%) of which Pseudomonas aeruginosa was the most common, followed by Gram positive (n=12, 28.5%) of which Staphylococcus aureus was the most encountered.

The presence of VAP, was associated with a raise in mortality rate in patients with VAP compared without VAP respectively (57.1% vs. 32.9%, p = 0.01).

Conclusions: The device associated VAP was higher than international standards. The predominant agents related with VAP were Gram negative. The surveillance and guidelines must become a priority to lower this studied baseline rate.

PP – F – 084

SPUTUM AND BLOOD CELL PROFILE IN EXACERBATIONS OF CHRONIC OBSTRUCTIVE PULMONARY DISEASE (EACOPD)

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Aim: The aim of this study was to investigate sputum and hematic cell profile in EACOPD.

Methods: In this study, 56 AECOPD patients have been evaluated at first consultation, and after 21days in relation to the number of sputum inflammatory and hematic cells. All of the AECOPD patients were stratified, according to the number of neutrophils (>61%) and eosinophils (>2.5%) in the sputum samples.

Results: Cell sputum stratification resulted: eosinophilic 9(16.1%), neutrophilic 16(28.6%) and paucigranulocytic 31(55.4%). AECOPD has increased significantly of total cells in 39 (69.6%), macrophage 55 (98.2%), neutrophils 51 (91.1%), lymphocytes 37(66.1%), eosinophils 19(33.9%), and epithelial cells 9(16.1%). After 21 days of treatment have remained increased total cells in 13 (23.2%), totally normal or decreased macrophages, neutrophils 13(23.2%), lymphocytes 45(80%), eosinophilis -6(10.7%), and epithelial cells -26(46.1%).

The average initial blood leukocytosis was 11777± 5233, after 21 days in 2630± 8593 (P<0.0001). AECOPD leukocyte formula (%) and after 21 days resulted respectively: rod nuclear 6.63±3.68 and 2.79±2.51 (P<0.0001), neutrophils 12.38±72.41 and 60.68±10.12 (P<0.0001), eosinophilis 2.1±2.69 and 3.81±3.49 (P=0.0045), basophils 0.21±0.27 and 0.22±0.28 (P=0.8478), monocytes 8.15±4.53 and 7.49±3.15 (P=0.3727), lymphocytes 17.07±8.80 and 27.62±8.19 (P<0.0001). There was increased level of leukocytes in 35 (62.5%) patients, rod nuclear 26 (46.4%), neutrophils 28 (50%), eosinophilis 7(12.5), basophils 1(1.8%), monocytes 21(37.5%), and lymphocytes 1(1.8%).

Conclusions: Diagnosis of AECOPD is supported by increased sputum inflammation as proxy of airways inflammation, and increased systemic inflammation as demonstrated by increased number of blood cells.

PP – F – 085

THE FIRST GLOBAL POINT PREVALENCE SURVEY OF ANTIMICROBIAL CONSUMPTION AND RESISTANCE (GLOBAL-PPS) IN ALBANIAN HOSPITALS

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Objectives: Estimate the difference in antimicrobial prescribing in Albania.

Methods: PPS took place on 01/02/2015 - 10/31/2015, in 3 hospitals. The survey involve all hospitalized patients, receiving antimicrobials

on the PPS day. Was included age, gender, weight, antimicrobial agents, doses, causes and indications for treatment, microbiological data, documentation of reasons and stop / revision date of the prescription. A web-based application is used for data-entry

Results: In this study participated three hospitals: University Hospital Centre "Mother Theresa" in Tirana (UHC), University Hospital Of Trauma (UHT) in Tirana and Vlora Hospital (VH) (Regional Hospital) in Vlora. Total patients during the survey was 804, number of wards surveyed was 31. Highest antimicrobial prevalence level (AMP) were observed in VH 83,3% followed by UHT 56,1% and UHC 38,5%. The therapeutic use for HAI (Hospital acquired infection) was at UHC 37,5%, at UHT 7,5% and VH 62,5%. Relational of therapeutic use, prophylactic use of antimicrobials was: for medical use at UHC 51,7%, at UHT 0% and VH 7,4% and for Surgical use at UHC 48,3%, at UHT 100% and at VH 92,6%. Extended surgical prophylaxis was in VH with 100% more than one day dose, followed by UHT 98% more than one day dose and UHC 94 % more than one day dose.

Conclusions: The use of antimicrobials in Albanian Hospitals confront to the one's in region and continent is higher. We assessed the present situation of antimicrobial consumption in Albania and it is necessary to continue the surveillance.

PP – F – 086

PORTAGE OF ORGANISMS MULTIDRUG-RESISTANT IN UNIVERSITY HOSPITAL CENTRE "MOTHER THERESA"

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Objectives: Prevalence of micro-organisms resistant to multiple drugs (MDR) in Albania **Methods**: In UHC "Mother Theresa" in Tirana with 1600 beds in total, was conducted at intensive care wards(110 beds) a one-day point-prevalence-survey (PPS) screening for nasal meticillin-resistant Staphylococcus aureus (MRSA) and rectal MDR Gram Negative(MRGN). A total of 106 nasal and 104 rectal swabs were collected. The samples were taken in the Central Intensive Care Unit, high dependency wards, haematology, haemodialysis patients from the renal unit and long stay/chronic patients from various medical and surgical wards throughout the hospital. Were taken into account the date of admission, diagnosis, previous and present antibiotic treatment including the type of antibiotic, presence of catheters and ventilation. The sample from each patient was taken nasally from each nostril, and rectally.

Results: MRSA positive were 15 of 106 patients. Was observed a high resistance to aminoglycosides and fluoroquinolones in the isolates but no resistance was identified to glycopeptides, nitrofurantoin and newer agents, tigecycline and linezolid. From 33 patients, 51 isolates of resistant Enterobacteriaceae were found. Was noted a high susceptibility to carbapenems, amikacin and fosfomycin and a high level of resistance to all other agents tested. Escherichia coli (28 isolates, 22 patients) and Klebsiella pneumoniae (14 isolates/10 patients) were the more usual resistant Enterobacteriaceae isolated. Non-Fermenting Gram Negative bacilli were in minor number isolated {22 isolates: Acinetobacter baumannii (9); Pseuodmonas aeruginosa (8) and Stenotrophomonas maltophilia (5)}.

Conclusion: A surveillance programme for antimicrobial resistance and rate of infection prevention in this hospital is necessary.

PP – F – 087

THE IDENTIFICATION AND ANTIBIOTICO-RESISTENCE OF PATHOGENS OF URINARY TRACT INFECTIONS IN CITY OF TIRANA

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Introduction: Urinary infections come next after those of the respiratory tract and between bacterial diseases, they occupy the first place. UTI affect more women. Any part of the urinary tract can be infected but often we have to do with bladder infections.

The aim of the study: was the identification and antibiotic-resistance of urinary pathogens isolated in patients of different ages both male and female.

Method: During the period January-December 2015 near Tirana DFS were analyzed 4500 urine samples from patients suspected of UTI. A total of 2213 men and 2287 women were examined. Samples were formed in the fields of blood and Endo agarDHE Mac-Conkey and were incubated for 24 hours at 370C. Cultures that have resulted in an increase of over 105 organisms per ml were considered significant with bacteruria. Besides the morphological appearance of the colonies Gram Stain technique was done as well as biochemical tests according to the type of suspected microorganism. The test of antibiotic-resistance was done by the method of Kirby-Bauer disc diffusion.

Results: Our study revealed that from 4500 clinical urinary samples analyzed 1065 (23.6%) have resulted in significant growth. Women were more affected than men. The microorganism that had the highest frequency was found Escherichia coli 873 (82%), followed by Pseudomonas spp. 157 (14.7%), Proteus spp.18 (1.7%), Klebsiella pneumoniae 7 (0.65%) and Staphylococcus spp3 (0.28%) positive cases.

Higher antibiotic resistance was found to have Ampicillin (90%) and Amoxicillin (82%), while Cyprofloxacin (88,2%) Cetazidime (80%) and Trimethoprim-sulfamethoxazole (Bactrim) (76%) have resulted in higher sensitivity to these microorganisms.

Conclusions: In our study the most common microorganism isolated in urine samples resulted E.Coli. We have found a high resistance not only to ampicillin and amoxicillins but also relatively to Ciprofloxacin. This study is available to guide clinicians toward choosing an antibiotic commonly used.

PP – F – 088

THE LABORATORIC IDENTIFICATION OF GIARDIA LAMBLIA IN CHILDREN AGED 2-10 YEARS OLD IN THE DISTRICT OF TIRANA DURING 2014

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Introduction: Giardia lamblia is one of the most common enteric parasites in children intestine. The aim of this study is to determine the frequency and identification of Giardiasis to

2-10 years old children in the district of Tirana and the link between Giardiasis and its seasonal character.

Method: 2014 fecal samples were taken from consecutive patients (1000 females and 1014 males, aged 2-10 years) presented in the laboratory from January 2014 to December 2014. All samples were examined for the presence of parasitic cysts and other Giardias through macroscopic and microscopic examination with / without coloring and using flotation concentration technique with Zinc Sulfate (ZnSO4) as the technique of precipitation with ether-formalin.

Results: Giardiasis was present in 351 clinical samples (17%). The highest degree of positivity (24%) was present in children aged 6-8 years, and the lowest degree of positivity (3%), was present in children aged 0-2 years. Males had a higher rate of positivity (11%) that women (6%). In terms of seasonal nature was observed that a higher percentage of positivity was in April 9%, May to 14%, June 10% and September by 10% and the month of October with 13%.

Conclusions: The higher prevalence among children shows a degree of acquired resistance to infection in adults. In our study it was observed that the age group most affected was 6-8 years followed by 4-6 years old children. It emphasizes the measures that should be taken in schools and public places as well as more sanitary measures.

PP – F – 089

DISTRIBUTION OF DIFFERENT STREPTOCOCCI SPECIES AND OTHER MICROORGANISMS IN ORAL CAVITY OF CHILDREN

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Introduction Streptococcus are very important as part of human of normal microflora. The aim of this study is to determine the oral microorganisms in children from 7 to 15 years old.

Material and methods: The population include in this study are the children in elementary school in Kukes city. In total are examined 162 cases. Every students include in this study has completed the simple questionnaire.

Results: The data of study show that from 162 cases include in this study 6 % resulted positive for alfa and beta streptococcus together, 9% resulted positive for α-streptococcus, 18% were β hemolytic streptococcus , 15 % staphylococci positive and in 52% of cases are isolates unidentification microorganisms. According to gender the number of microorganisms was 59.25% in female and 40.75% in men. The result of questionnaires. Haw many time was(clean) the teeth on days? 27.7% of interview children wash teeth 2 times a day. 24 % wash teeth only one time e a day and 1.85% not wash teeth. How may time in year make the visit to dentist? Our data show that 37% do the medical visit to dentist once a year, 33 % do the medical visit every three month, 17% do the medical visit every 6 month and 13% don't make the medical control or go to doctor only when have pain. How consume the Food ? The data show that 58% of children eat the food in normal temperature, 22% prefer the hot food and 20 % eat cold food.

Conclusions: The beta haemolytic streptococcus were in higher percent comparing with other microorganism. According to gender the percent of microorganism was higher in female than men.

PP – F – 090

PREVALENCE OF UREAPLASMA UREALITICUM AMONG WOMEN OF REPRODUCTIVE AGE AND THE CORRELATION TO BACTERIAL VAGINOSIS

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Background: U. urealyticum has frequently been found in lower gential tract of women with bacterial vaginosis (BV). But their role in BV etiology is uncertain. Bacterial vaginosis (BV) is one of the most common lower genital tract symptoms among women of reproductive age. It is characterized by an imbalance of vaginal flora with reduction of Lactobacillus and overgrow of other vaginal microorganisms including Gardnerella vaginalis, Mobiluncus, Prevotella, Bacteroides, and Mycoplasma hominis. BV has been associated with upper genital tract infection of the endometrium and fallopian tubes, which may lead to pelvic inflammatory disease, infertility, miscarriage and preterm birth.

Recently, some researchers found that Ureaplasma species were correlated with BV by Gram's stain and PCR assay.

Methods: 184 women of reproductive age (20-45) were tested during 2015 for Ureaplasma urealiticum, Mycoplasma hominis and Chlamydia trachomatis. Four swabs were taken from each woman: for gram stain, culture, Mycoplasma Ureaplasma broth testing and culture in sabouraud for candida testing.

Results: 64 women of 184 or 34.8% resulted positive for Ureaplasma urealiticum. 13 of 64 or 20.3% were positive for both Mycoplasma hominis and Ureaplasma and 2 of 64 were positive for Mycoplasma, Ureaplasma and Chlamydia.

46 women of 64 or 71.8% of the women tested positive for ureaplasma were diagnosed with bacterial vaginosis due to Amsel criteria and Nugent score.

62 of 120 or 51.6 % of the women tested negative for ureaplasma were diagnosed with BV.

Conclusion: Approximately 20% more women were diagnosed with BV in the positive group (Ureaplasma positive) compared to the Ureaplasma negative group. So there is a positive correlation of Ureaplasma and Mycoplasma in the genital tract and BV.

PP – F – 091

E.COLI AS A ZOONOTIC CAUSE OF URINARY TRACT INFECTIONS IN HUMAN

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Introduction: In recent decades major concern is expressed in the emergence and re-emergence of several infectious diseases, including zoonoses which play an important role. Zoonotic diseases represent one of the major causes of morbidity and mortality from infectious diseases.

Objective: Evaluation of the zoonotic potential of E.coli as a cause of urinary tract infections in humans

Material and Methods: Were collected 19 strains of E. coli isolated from UTI patients working in a poultry farm and 56 strains of E. coli isolated from poultry carcasses of healthy and diseased ones. Was done the sensitivity profile of antibiotic resistance used in animals and people through standardized method of disk diffusion by implementing break-point of EUCAST.

Results: We found the same profile resistance - sensitivity in chickens and people. Levofloxacin resistance was (51.8%), to amoxicillin / clavulanic acid (70.4%), to ampicillin (81.5%), cefalotin (88.8%), tetracycline (100%) and to streptomycin (100%).

Conclusions: The data indicate that there is a correlation between the pathogenesis of E. coli strains pathogenic for humans and animals (chickens). Thus, an early diagnosis must be made on poultry farms to identify high-risk microorganisms and ensure food fit for human consumption. The data reinforce the hypothesis about the spread of multidrug-resistant strains of E. coli between animal and man through the food chain.

PP – F – 092

MEASUREMENT UNCERTAINTIES FOR SERUM ELECTROLYTES USING TOP-DOWN METHOD

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Introduction. The uncertainty of measurement (UM) serves to characterize a range of values for the true value of the measurand. Estimating and reporting the UM is required of laboratories accredited to ISO/IEC 17025 and ISO/IEC 15189 and is important for medical laboratories, mostly to make patient results comparable irrespective of where the testing is done.

Aim of the study: to demonstrate top-down approach as a method estimation of UM for serum sodium, potassium and chlorides measured by direct ISE. Data from internal quality control and EQAS were used in: estimation of $\%u_{rw}$ from intralab imprecision (reproducibility and repeatability) as well as calculations of $\%u_{bias}$, combined uncertainty $\%u = (\%u^2_{rw} + \%u^2_{bias})^{1/2}$ and expanded UM (with a 95% confidence).

Results were similar for both control levels used and higher values are presented: for sodium - $\%u_{rw}$=3.1, %u=3.9 and UM=9 mmol/L; for potassium - $\%u_{rw}$=4.4, %u=5.5 and UM=0,4mmol/L=0.4 and for chlorides - $\%u_{rw}$=5.0, %u=7.8 and UM=14 mmol/L.

Conclusions: In cases where no demands have been published, some authors have accepted that the desired uncertainty should be related to variation of the measurement within individuals–Biological Variation. Our results showed higher UM than this demand. So, the main goal that arose from the study was to reduce the uncertainty. A few recommendations could be accepted and implemented: use of calibration facilities with the smallest uncertainties, corrections to compensate for known errors, checking the measurements by repeating them and check calculations.

PP – F – 093

QUALITY INDICATORS IN A MIDDLE SCALE LABORATORY PRIOR IMPLEMENTATION OF LIS

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Background: Establishment of quality indicators (QIs) is a valuable tool in the clinical chemistry laboratory management. It provides an objective estimation of the total testing process, thus indicating the phases to be improved. Our goal was to obtain QI data (of the pre-analytical, analytical and post-analytical phase) prior implementation of the Laboratory Information System (LIS) in our middle scale laboratory, where significant amount of processes are performed manually.

Methods: 14 QIs of pre-analytical phase have been defined, as well as 2 for analytical and 2 for post-analytical phase. Total process errors, registered on a daily base in dedicated check-lists and collected within one year period, were summarized. This data has been used to calculate the proportion of each QI and to compare the results obtained.

Results: Total number of 2408 errors was registered in 2015. The highest proportion (82 %) were QIs of the pre-analytical phase, only 3,9 % of analytical phase and 13,6 % of post-analytical phase. 28,8 % of all QIs of the pre-analytical phase were classified in the category, formulation and input of request", while 71,2 % were due to ,,identification, collection, handling and transport of samples" errors. From the latest category, 48,7% were clotted-chemistry samples, and 36 % were hemolyzed samples.

Conclusions: From the data presented, it is evident that the major focus for improvement should include QIs related to sample handling in pre-analytical phase. This data would be used in the follow – up of the improvements expected in each of the process phases, a year after LIS implementation.

PP – F – 094

PERFORMANCE VERIFICATION OF 15 ASSAYS RUN WITH ABBOTT ARCHITECT ci8200

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Background: Manufacturers provide data of assay validation but, under the influence of accreditation, it has become a common practice that the end-user laboratory independently verifies that the essential performance characteristics, including imprecision and bias found during manufacturers validation can be reproduced locally.

Methods: In this study we have verified the performance characteristics (imprecision and bias) for Glucose, Uric Acid, AST, ALT, Total Bilirubin, Triglycerides, Cholesterol, HDL, Creatinine, Urea, Calcium, Iron, ALP, GGT, and TSH run with Architect ci8200. We used the data from two levels of internal control values for 6 months and calculated SD and CV% for each level to evaluate reproducibility (Intralaboratory Imprecision). In addition, we did 10 consecutive measurements of the same internal control sample (Level 1 and 2) for each assay and calculated SD and CV% for each level to evaluate

Repeatability (within-day Imprecision). Bias was evaluated using data from a biweekly external quality control scheme (RIQAS) for 6 months.

Results: We compared our results for imprecision to the manufacturers stated imprecision and to Riqos desirable specifications. We compared the bias from EQAS with Riqos desirable specifications; no data were available from the manufacturer for bias.

Conclusions: Our performance characteristics (Imprecision) were within the limits stated from the manufacturer, except for total bilirubin, which although met the desirable performance specifications stated from Riqos et.al. The bias we calculated for each assay met the desirable performance specification set from Riqos et. al., xcept for calcium which only met the minimum performance specifications (< 1.3%).

PP – F – 095

ESTIMATING MEASUREMENT UNCERTAINTY FOR TSH AND TOTAL PSA IN PEGASUS MED LABORATORY, ALBANIA

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Background: In this study we have described our experience in calculating measurement uncertainty (MU) for TSH and PSA, as an important requirement of ISO 15189.

Method: We have used the "Top Down" approach to calculate MU for TSH and PSA, measured with Abbott Architect c2000. After précising the measurand and the sources of uncertainty in a fish diagram, we estimated type A uncertainty as Imprecision, calculating SD and CV% from Internal QC data from the previous 8 months. We also estimated type B uncertainty, which included calibrator uncertainty provided by the manufacturer and Bias from EQAS reports (SDI for both assays was < 2, so according to the guidelines it was not included in the calculations). The combined uncertainty was calculated as SQRT (A^2 + B^2).The expanded uncertainty was calculated by multiplying the result with a coverage factor of 1.96, for a 95 % confidence interval.

Results: We decided to use RIQO's 2014 desirable and optimal specifications as allowable performance criteria, respectively: for TSH < 23.7 %; < 11.9 % and for PSA: < 33.6%; <16.8 %. Our results for TSH and PSA were 8.68 and 9.35: lower than both performance criteria.

Conclusions: Both assays meet optimal performance specifications according to Riqos et.al. By calculating MU we have increased further the reliability of the results, since we now have a quantitative estimate of where the true value of these analytes lies, with a 95 % confidence interval: TSH= 1.0 ± 0.0868 μIU/ml and PSA = 1.0 ± 0.0935 ng/ml.

PP – F – 096

ESTIMATING MEASUREMENT UNCERTAINTY FOR 13 CLINICAL CHEMISTRY ASSAYS IN PEGASUS MED LABORATORY, ALBANIA

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Background: In this study we have described our experience in calculating the uncertainty of measurement for 13 clinical chemistry assays, as an important technical requirement of ISO 15189.

Method: We have used the "Top Down" approach to calculate the measurement uncertainty for the following clinical chemistry assays: Cholesterol, Creatinine, Glucose, HDL, Iron, Triglyceride, Urea, Uric Acid, AST, ALT, Total Bilirubin, GGT, and ALP, run with Abbott Architect i8000. After précising the measurand and the sources of uncertainty in a fish diagram, we estimated type A uncertainty as Imprecision, calculating SD and CV% from Internal QC data (2 levels) from the previous 6 months. We also estimated type B uncertainty, which included calibrators' uncertainty (when provided from the manufacturer) and Bias from external quality assessment schemes reports (SDI was < 2 for every assay, so according to the guidelines it was not included in the calculations). The combined uncertainty was calculated as SQRT (A^2 + B^2). The expanded uncertainty was calculated by multiplying the result with a coverage factor of 1.96, for a 95 % confidence interval.

Results: We compared our results for measurement uncertainty with RIQO's (2014) desirable specifications for total error and found that all 13 studied parameters met desirable performance criteria.

Conclusions: By calculating measurement uncertainty for each analyte, we have increased further the reliability of the results we deliver, since now we have a quantitative estimate of where the true value of a measured analyte lies, with a 95 % confidence interval.

PP – F – 097

EXTERNAL QUALITY ASSESSMENT SCHEME (EQAS) ON HEMOSTASIS – OUR FIVE YEARS EXPERIENCE

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Background: EQAS is an important tool to monitor and maintain the laboratory performance and quality. The participation in the External Quality Assessment (EQA) program offer valuable benefits to patient care and their safety.

In the current study we evaluated our EQAS results for PT, APTT and factor assays from 2010 to 2014. Our EQAS participation was supported by World Federation of Hemophilia.

Materials and methods: Blood samples from International External Quality Assessment Scheme were received every four month (March, July, November) and processed as part of routine work samples on ACL 9000 analyser. The results were returned to the scheme organizer for statistical analysis.

Results: Satisfactory results were obtained in all cycles for PT, APTT and factor IX assay. Two consecutive times discordant results were obtained in factor VIII assay. We have identified the reason for this poor performance and necessary actions were taken.

Conclusion: This participation in EQAS has helped us to identify causes of unacceptable performance and to improve the quality of our hemostasis laboratory tests practice.

PP – F – 098

IDENTIFICATION OF THE PREANALYTICAL ERRORS IN THE HOSPITAL LABORATORY - 8 MONTHS STUDY

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Background: Pre- and post-analytical errors are estimated to constitute 65%-95% of all laboratory errors depending of the study data. Errors at any stage of the collection, testing and reporting process can potentially lead to a serious patient misdiagnosis. Errors during the collection process are not inevitable but can be prevented with a diligent application of quality control, continuing education and effective collection systems.

Materials and methods: A perspective analysis of the results obtained from the biomedical laboratory of Clinical center of Nis, Serbia for errors of the preanalytical phase has been carried out to summarize data. Laboratory personnel were asked to register rejections, and causes for rejection of wards.

Results: Out of the 48328 blood collection tubes screened over a period of 6 months, pre-analytical errors were observed in approximately 1.9% of the total number of samples received. The distribution of the different types of errors was then calculated. The majority of the rejected samples were hemolyzed, which accounts for 1.1% of the total number of samples received during this period. The amount of blood was insufficient for complete analysis in 0.08%. Another factor leading to rejection of blood samples in this study was insufficient blood volume (0.08%). A total of 0.4% samples in the wards were accompanied by inappropriate requisition slips.

Conclusion: The human role in sample collection makes complete elimination of errors associated with laboratory testing unrealistic. However, good practice and compliance with the new strategies for error prevention can lead to a substantial reduction in pre-analytical errors. A practice of keeping a record of the errors at all stages of analysis and then divising corrective strategies for their prevention can gradually free a laboratory from such errors.

PP – F – 099

PROBLEMS OF SAMPLES DURING PREANALYTICAL PHASE

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Introduction: Preanalytical phase is targeted and confirmed as a phase, where occurring more percentage of laboratory errors all over the world. Recognition of this fact, has imposed recently a lot of studies, solution and attitudes.

Aim: Speedy reassessment and suggestion of solutions to improve continuously the situation.

Material and methods: Recently literature about preanalytical phase and investigation of preanalytical phase in two casual days in University Hospital Center (UHC) “Mother Teresa”, Tirana, Albania.

Results: We investigate relatively small number of samples, 850 samples. 730(85.88%) of them were normal, and 120(14.12%) were not normal.

Abnormal samples were: hemolysed 71(79%), lipemics 11(9%), icteric 24(20%). The highest number of hemolysed samples were from

pediatric service 18.8%; the lowest number is from toxicology 8.2% and from chemiotherapy 7.06%. More lipemic samples were from pediatric service 27.3%; psychiatry and cardiac surgery services 18.2%. More icteric samples were from gastroenterology25%; The cardiac surgery and pediatric services 12.5%. Unfilled samples 0.7%. All of them were from pediatric services.

Conclusions: 1. Addressing of issues to each actor and factor of circuits of exams, updates and continuous training of nursing staff, more active role of health organizations, effective ISO15189 application, application of procedures and professional suggestions about preanalytical phase, are the right ways to disseminate the best experience of tertiary services, with main purpose constant improvement of themselves and other services (primary and secondary). 2. Initiation of projects and other longer studies to observe in more details all actors and stages of preanalytical phase.

PP – F – 100

PREDICTION OF ACUTE ISCHEMIC STROKE FROM HEMATOLOGICAL AND BIOCHEMICAL PARAMETERS USING ARTIFICIAL INTELLIGENCE METHODS

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Objective: Acute Ischemic Stroke (AIS) is a major cause of long-term disability and death worlwide. In this study, it was aimed to investigate the use of different Artificial Intelligence (AI) methods for predicting AIS with hematological and biochemical parameters.

Methods: This prospective study was performed in 124 patients with 60 patients who confirmed as diagnosis of AIS and 64 healthy control patients. They admitted to Nigde Public Hospital, Division of Neurology and Emergency Service during March 2015 and July 2016 in the first 24 hours. Each patient has 39 hematologic and biochemical parameters including age, gender, BMI, complete blood count, iron, TIBC, ferritin, T3, T4, TSH, urea, creatinine, total and direct bilirubin, AST, ALT,GGT, total cholesterol, triglyceride, HDL, LDL, glucose, vitamin B12, calcium, magnesium, potassium and CRP which were analyzed in the hospital laboratory. These parameters were applied for predicting for AIS by using Back Propagation (BP), LibLinear, Sequential Minimal Optimization-Support Vector Machine (SMO-SVM), and Radial Basis Function (RBF) algorithms. The most efficient algorithm was determined with using accuracy and ROC curve evaluations parameters.

Results: The accuracy values of AI methods were 81.45% for BP, 74.19% for LibLinear, 86.29% for SMO-SVM, and 82.25% for RBF. The ROC values also evaluated as 0.91, 0.74, 0.86, and 0.85 respectively.

Conclusion: In conclusion, one decision support system has been designed with hematological and biochemical parameters and it was decided that the SMO-SVM was the most efficient algorithm for the parameters used in predict of AIS.This proposed SMO-SVM model would be useful when needs to use a clinical decision system with laboratory parameters for the physicians.

PP – F – 101

EVALUATION OF A HEMOGLOBIN A1c METHOD ON ARCHITECT ci8200 ANALYZER

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Introduction: Glycated hemoglobin (HbA1c) assay is used in clinical laboratories for the quantitative in vitro measurement of percent hemoglobin A1c. HbA1c is representative of the mean blood glucose level over three months. The hemoglobin A1c assay utilizes an enzymatic method that specifically measures N-terminal fructosyl dipeptides of β-chain of HbA1c.

Methods: We evaluated the precision for determination of HbA1c on Architect ci8200 (Abbott) analyzer. Commercial controls Liquichek Diabetes Control Level 1 and Liquichek Diabetes Control Level 2 (Bio Rad) at two levels were used for quality control. Analytical validation of HbA1c included: within-run precision and between-day precision. Results from samples (n=31) determination on the Architect ci8200 (Abbott) were compared to the A25 (Biosystems) imunoturbidimetric method.

Results: Within-run precision on the commercially controls for Level 1 is 0.7% and Level 2 is 0.6% between-day precision on commercially controls is 1.6% Level 1 and 1.5% Level 2.The correlation of the two methods yielded a correlation coefficient (r) of 0.99.

Conclusion: The presented results of the analytical evaluation enzymatic method for the determination of HbA1c showed an acceptable precision and it correlates well with the imunoturbidimetric method.

PP – F – 102

COMPARISON OF THREE IMMNOASSAY FOR DETERMINATION OF CA 19-9 ANTIGEN IN HUMAN SERUM

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Introduction: Among these, cancer antigen (CA) 19-9 is a marker for pancreatic and colorectal carcinoma. In our study we have investigated the level of CA 19-9 at 50 patients with benign and malign disease using three immunoassays.

Methods: The COBAS e 601 (Roche) uses an ECLIA, Architect i2000 analyzer (Abbott) uses CMIA and VITROS 5600 uses integrated System Intellicheck Technology with cuf off 0.0-37.0 IU/mL for determination of tumor marker CA 19-9 in human serum. Results were with a statistical significance of $p < 0.05$.

Results: Comparison of CA19-9 on COBAS e 601 (Roche) with Architect (Abbott) show correlation coefficient R = 0.708. The results showed regression line between immunoassay in patients with CA 19-9 treatment of y (Cobas) = 16.29 x (Architect) + 0.54. The mean concentration of CA 19-9 in ECLIA method was 42.10 IU/mL and using CMIA method was 47.84 IU/mL at patients. Comparison of CA19-9 on Vitros 5600 (Johnson) with Architect (Abbott) show correlation coefficient R = 0. 915. The results showed regression line between immunoassay in patients with CA 19-9 treatment

of y (Vitros) = 2.52 + 1.99 x (Architect). The mean concentration of CA 19-9 in Intellicheck Technology was 81.31 IU/mL and using CMIA method was 38.51 IU/mL at patients.

Conclusions: Patients should be monitored on a single method to avoid differences in the results. The various immunoassay techniques for detection of CA 19-9 tumor marker using different monoclonal antibodies, which leads to different results. Different antibodies recognize different parts of the molecule, and antigen heterogeneity may account in part for inter method differences.

PP – F – 103

COMPARISON OF THREE METHODS FOR TOTAL AND FREE PSA MEASUREMENT

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Prostate-specific antigen (PSA) is present in small quantities in the serum of men with healthy prostates, but is often elevated in the presence of prostate cancer or other prostate disorders.

The aim of this study was to compare three methods for determination of serum total PSA and free PSA: CMIA (chemiluminescent microparticle immunoassay), ECLIA (electrochemiluminescence immunoassay) and CLIA (chemiluminescence immunoassay). These methods are used on following systems: CMIA on Architect ci8200 (Abbott Diagnostics, Wiesbaden, Germany), ECLIA on Cobas E601 (Roche Diagnostics, Mannheim, Germany) and CLIA on Immulite 2000 (Siemens Healthcare GmbHs, Erlangen, Germany).

In imprecision studies at increasing serum t-PSA and f-PSA concentration, intra-assay and interassay CVs ranged: 3.7%-5.6% and 2.0%-5.8%, 1.4%-2.01% and 1.85%-6.92%, 2.2%-4.9% and 3.2%-5.2%, for Abbott, Roche and Siemens methods, respectively. The correlation of t-PSA and f-PSA values, determined with these methods, was evaluated using least-square regression analysis and absolute difference plot according to Bland and Altman. Obtained correlation coefficients (slope, intercept) were: Abbott vs Roche method, 0.9996 (0.4522, 1.0164) and 0.9726 (1.2463, 0.1659); Abbott vs Siemens method, 0.9997 (0.95, 0.2794) and 0.9771 (1.2338, -0.0069); Roche vs Siemens method, 1.000 (0.9356, 0.1675) and 0.9719 (0.9737, -0.116). Means (SD) absolute differences from Bland-Altman plot were: -0.14 (1.94) ng/mL and 0.3423 (0.5998) ng/mL, -3.29 (0.976) ng/mL and 0.1972 (0.4397) ng/mL, -4.725 (0.615) ng/mL and -0.2202 (-0.08508) ng/mL, for comparison of: Abbott and Roche method, Abbott and Siemens methods and Roche and Siemens methods, respectively.

The results of this study showed that there was good agreement among t-PSA and f-PSA values determined with these three methods.

PP – F – 104

COMPARATIVE STUDY OF SERUM CA 125 CONCENTRATIONS MEASURED BY TWO IMMUNOMETRIC ASSAYS (ECLIA AND ELFA) FOR THE DETECTION OF OVARIAN CANCER IN WOMEN

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Carbohydrate antigen 125 (CA 125) is the established biomarker for the detection of ovarian (OC) recurrence and for the therapeutic response monitoring. In addition, recent guidelines recommend its measurement in the primary care setting in women with suggestive symptoms or at high risk for OC, in combination with pelvic ultrasound.

The purpose of this study was the comparison of serum CA 125 concentrations in serum samples measured with two immunometric methods, ECLIA (electro chemiluminescence immunoassay) and ELFA (enzyme-linked fluorescent assay). The serum CA 125 concentrations were measured in 26 outside women patients (mean age 42 years old). The measurements were done at the same time with ECLIA using an automated analyzer IMMULITE® 1000 OM-MA and ELFA using an automated fluorescence reader, Mini VIDAS®. All the analytical data were statistically treated using Descriptive Statistics. The mean CA 125 concentration were 7.21±3.57 U/L measured with ECLIA and 8.71±4.06.U/L measured with ELFA. The minimum and maximum value for ECLIA were respectively 3.60 U/L and 19.17 U/L and for ELFA respectively 3.43 U/L and 23.10 U/L. The study of statistical parameters confirmed small difference of variance, SD, skewness and kurtosis. Using ANOVA, a statistically significant positive correlation has been found between two methods (r2=0.93). As a conclusion, we can say that ECLIA and ELFA immunometric methods can be simultaneously applied in the laboratory analysis for CA 125, because the obtained results are closely correlated to each other.

PP – F – 105

DETERMINATION OF SERUM CREATININE BY LIQUID-CHROMATOGRAPHY-MASS SPECTROMETRY (LC-MS/MS)

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Aim: Accurate quantification of creatinine is important to estimate glomerular filtration rate. Enzymatic and Jaffe methods are widely used in clinical laboratories. However, marked differences occur among these methods due to lack of sufficent specificity. Moreover, these methods are more susceptible to interference from hemolysis, lipemia, bilirubin, protein, and vitamin C. Our aim was to determine serum creatinine by liquid chromatography tandem mass spectrometry.

Methods: For serum creatinine measurement, 40 µL of internal standard (d3- creatinine) in acetonitrile was added to 40 µL standart or serum and after precipitation with 460 µL acetonitrile, tube was centrifuged at 2300 rpm for 10 minutes to remove the proteins. The supernatant was collected and 20 µL was injected into the ultra

performance liquid chromatography analytical column for chromatography.

Results: The methylmalonic assay was linear up to 3200 µg/L. Interassay CVs were 7%, 6.1%, and 5.9% for mean concentrations of 50, 200, and 800 µg/L, respectively.

Conclusion: This method is novel and sensitive. The ideal run time, the feasibility of high sample throughput and the small amount of sample required make this method very acceptable for routine analysis in the clinical setting. This method may be used for determining serum creatinine levels.

PP – F – 106

EVALUATION OF SERUM DIGOXIN TEST IN ARCHITECT® I2000SR SYSTEM WITH AXSYM®

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Introduction: Digoxin has a narrow therapeutic interval (0.8---2 ng/ml), its high inter- and intra-individual variability, the strong correlation between its pharmacological activity and his serum concentrations. The low specificity of the symptoms and signs of toxicity, and the availability of automated systems to measure drug levels all contribute to the fact that digoxin monitoring is part of routine care for these patients. We compared the results digoxin assay in serum using Architect and SR 2000 and (Abbott) AxSYM (Abbott).

Method: The Architect i2000 analyzer (Abbott) uses a chemiluminescent microparticle immunoassay (CMIA) and AxSYM® using microparticle enzyme immunoassay. In our prospective study we analysis 40 samplers from patients treated with digoxin.

Results: The serum levels showed a correlation coefficient of 0.90. The results showed regression line between immunoassay in patients with digoxin treatment of y (Architect)= 0.604 x (AxSYM) - 110.73. There was nearly a 35-37% difference for the concentrations between 0.8 and 2 ng/ml. The precision of the method AxSYM according to the coefficient of variation of the property, since the coefficient of variation ranging from 4.56 to 7.58 % and in Architect was from 0.90 to 1.30.

Conclusions: The Architect (Abbott) is very precise but in correlation with AxSYM it shows a unacceptably inaccurate method. Therefore a therapeutic monitoring of digoxin is possible only with use of one method.

PP – F – 107

CELL-FREE DNA: THE SEARCH OF PROGNOSTIC BIOMARKERS IN PROSTATE CANCER

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Background: Several studies have shown the potential role of cfDNA levels in the prognostic assessment of different solid malignancies. However, the quantification of pure cfDNA is a prerequisite for a reliable genotype analysis focused on the detection of cancer-specific DNA mutations signatures and/or epigenetic modifications. In this study, the quality and quantity of cfDNA were assessed by two different quantification procedures, furthermore cancer-specific DNA mutations as prognostic biomarkers in prostate cancer patients were tested.

Methods: A total of 25 prostate cancer patients and 30 aged matched healthy controls were enrolled into the study. Blood samples were collected at the diagnosis of prostate cancer, and at 6 and 12 months following the radical prostatectomy operation. cfDNA was extracted from plasma through Qiagen kit and Promega automatic extractor. Qubit 2.0 was utilized for measurements of total amount cfDNA before qPCR quantification performed targeting of the single copy gene APP. Methylated GSTP1 and RASSF1A tumour specific cfDNA markers were determined.

Results: Preliminary data showed that patients with high cfDNA concentration at baseline had worse disease free time and overall survival.

Conclusion: The automated cfDNA extraction associated to the quantification by Qubit 2.0 seems to be the best approach to quantify the patient's cancer-specific DNA mutations by qPCR assay. The combination of multiple mutational/methylation cancer biomarkers is suitable to determine the total amount of cfDNA in prostate cancer patients. cfDNA detection can be used as a prognostic and predictive tool for stratification, clinical management and follow-up of prostate cancer patients.

PP – F – 108

NEXT GENERATION SEQUENCING AND DETECTION OF COMMON MUTATIONS IN LUNG AND COLON CANCERS

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DNA sequencing has revolutionised biological and medical research, and have a similar impact on the practice of medicine. In spite of advances in other 'omic' technologies, DNA sequencing and analysis have played the leading role to date. The next-generation sequencing (NGS) provides a new approach between genotype and phenotype. NGS offers new technologies beyond the limites of genetics. NGS Method consists of several steps: firstly gDNA is degraded in fragments, then amplification is done by emPCR, which is performed within the formed beads containing several thousand copies of the same template sequence. EmPCR beads are chemically attached to a chip desined for sequencing. Solid-phase amplification is composed of two basic steps: initial priming and extending of the single-stranded, singlemolecule template, and bridge amplification of the immobilised template with immediately adjacent primers to form clusters. Next step is sequencing and imaging. Data analysis performed by the available software programmes and bioinformatic analysis. Being aware of the importance of individual genetic changes for early diagnosis, choosing proper therapeutics and decreasing mortality due to therapies, in this study of NGS, we had lung and colon cancer groups. Former one is the most common, latter is the third common cancer worldwide. In our study we analyzed patients of each group to determine the similar genetic changes. PGM and AmpliSeq Colon and Lung Cancer Panel were performed to detect the possible gene variations on KRAS, EGFR, BRAF, PIK3CA, AKT1, ERBB2, PTEN, NRAS, STK11, MAP2K1, ALK, DDR2, CTNNB1, MET,TP53,

SMAD4, FBX7, FGFR3, NOTCH1, ERBB4, FGFR1, FGFR2 genes for 504 hotspot regions. We recognized previously undefined mutations in both cancers groups to be researched in more crowded patient groups. Our results can be pioneer for determining tendency to those cancer types as well as having possible prognostic and/ or therapeutic follow-up values.

PP – F – 109

CURRENT SITUATION OF THE MEDICAL LABORATORY ORGANIZATION IN ALBANIA

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Introduction: In Albania the service of the medical laboratories (clinical-biochemical and microbiological) offered through medical laboratories in hospital service, in primary health care as well as in private medical laboratories.

Medical laboratories in public hospitals are organized in three levels; in district hospitals (24 laboratories), in regional hospitals (11 laboratories) and in university hospitals (5lab). In primary health care medical laboratories are parts of the medical polyclinics of specialties and health care centers. In the private sector (272 in total) they are part of the private hospital, part of the medical clinic as well as single laboratory service.

Method: The information is based on data collected through the questionnaire distributed as well as in private and public laboratories.

Results: Problems that facing today the laboratory service in Albania: Public sector offers limited number and volume of the analysis due to insufficient budgets; lack of a standardized package of the clinical laboratory services at the hospital level; lack of the national accreditation system of laboratories; lack of controls for the applicability of the registration requirements for private medical laboratories; internal quality control is weak and external quality control is not yet institutionalized; it is not regulated involvement of the private sector in referral procedures.

Achievement: The laboratory staff is well educated; storage of reagents and kits is according to standards; improvements in infrastructure and standardization of the equipment; improvement in the management of laboratory waste.

Conclusion: It needs better legal framework. It should increase the quality service based on the performance indicators.

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LABORATORY MONITORING OF BIOCHEMICALS CHANGES IN ANTIPSYCHOTICS AND ANTI-DEPRESSANT THERAPY

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Objective: This study aimed to investigate possible changes of biochemical parameters, in patients with schizophrenia and bipolar disorders treated with atypical antipsychotic and antidepressant drugs (Olanzapin, Risperidon, Clozapin, Tricyclic antidepressant, SSRI, SNRI).

Methods: Forty subjects with schizophrenia and bipolar disorders were evaluated, 12 women and 28 men, aged between 17 and 72 years. Blood collection of the patients was taken in our laboratory and serum glucose, triglycerides, cholesterol, HDL, LDL, hepatic enzymes and creatine kinase were measured. Analyses were performed in our laboratory with autoanalyser SAT 450.

Results: We have found the higher prevalence of metabolic syndrome, type 2 diabetes and increased hepatic enzymes and CK levels among our patients. In our study we have found a strong correlation ($p<0.05$) between biochemical changes and duration of treatment.

Conclusion: Our data support the importance of application of biochemical monitoring protocols in patients treated with atypical antipsychotic and antidepressant drugs.

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A POINT PREVALENCE SURVEY OF ANTIBIOTIC USE IN A REGIONAL HOSPITAL IN ALBANIA

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Background: Inappropriate antibiotic prescribing appears to be common worldwide and is contributing to the selection of resistant organisms. This study examined the prevalence of antibiotic prescription and the appropriateness of indications for these prescriptions in the regional hospital of Durres district.

Methods: A point-prevalence study was performed between February and April 2016 in the regional hospital of Durres district. All inpatients on the day of the survey were included in the analysis. Standard published guidelines were used to evaluate the appropriateness of indications for antibiotic prescription.

Results: On the day of the study, 113 out of 221 patients (51.1%) were receiving antibiotic therapy. Of those, 48.5% were on surgical wards, 44% were on medical wards and 7.5% were on ICU. The antibiotic prescription rate was highest in ICU (99.3%) and lowest in medical wards (42.3%). Of 113 patients receiving antibiotics, the most commonly prescribed agents were cephalosporins (69.5%), penicillins (20.4%), and aminoglycosides (10.1%). Twenty seven (23.9%) of the patients had an inappropriate indication for prescription which was most frequent in surgery wards (80.2%), as compared to medical wards (31.8%; $p < 0.001$). The reason for antibiotic prescription was recorded in 78% of cases. Antibiotic use guidelines were missing in all areas under survey.

Conclusions: Our data indicate a high rate of antibiotic use in the regional hospital of Durres and also a relatively high prevalence of inappropriate indications for antibiotic prescriptions. These findings suggest important areas for intervention and implementation of antibiotic stewardship policies in this hospital.

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ELECTROPHYSIOLOGICAL CHANGES IN ETHANOL-CARENCIAL NEUROPATHY WEAKLY CORRELATE WITH BLOOD TEST AND BIOCHEMICAL ALTERATIONS IN A SAMPLE OF 105 ALCOHOLICS

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Introduction: Ethanol-derived damages are of a multiple, progressive and as a rule accumulative character. Such damages involve the neuromuscular system, the liver and the gastro-intestinal system; reproduction and cardiocirculatory system. The aim of this study has been to detect biochemical and hematological changes and eventually to correlate those with one of the complication of chronic ethanol abuse, namely the peripheral neuropathy (ethanol-carencial).

Methodology and results: 105 patients with ethanol-carencial polyneuropathy (clinically and electrophysiological proven) have been screened for a number of biochemical and blood test parameters (hepatic enzymes, blood fasting glucose, velocity of erythrosedimentation, hematocrit and complete blood count).

The patients have been selected during a three years period (January 2012 – December 2014) in the Elbasan District Hospital where the blood test examinations took place; electroneurography was performed in Tirana. A specialistic neurological evaluation preceded the collection of both type of the over mentioned data.

According to our data, it seems only but a few electrophysiological parameters do correlate with biochemical and hematological changes; the latter clearly reflecting changes of non-nervous systems (functional liver status, renal and hematopoietic system etc). As such, it seems clear that the ethanol-carencial neuropathy is an independent entity, not necessarily correlating linearly with other organic or somatic damages of alcohol abuse (liver suffering, pancreatic, hematopoietic or cardio-vascular injuries). A multidisciplinary approach of this occurrence is indispensable, for a prompt diagnosis, and for an adequate treatment of this complication.

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THE EFFECT OF MALATHION ON SERUM CHOLINESTERASE, INSULIN AND TUMOUR NECROSIS FACTOR ALPHA

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Background: It is an undeniable fact that Malathion, which is an organophosphorus compound, is a widely used pesticide all over world. However, widespread use of Malathion in public health and agricultural programs has been causing health hazards including acute human poisoning. The aim of this study was to investigate activities of serum cholinesterase

(ChE), insulin, and tumour necrosis factor alpha (TNF-α) levels in rats.

Material and Methods: Rats were randomly divided into four groups each containing 6 animals. The first group of animals (Group 1) was given only corn oil by oral gavage, and Group 2, Group 3 and Group 4 received Malathion dissolved in corn oil via oral gavage at the doses of 100, 200 and 400 mg/kg, respectively. Rats were sacrificed after 24 hours following administration.

Results: Acute administration of Malathion led to a decrease in serum ChE levels in Group 2, Group 3 and Group 4 compared to Group 1 ($p<0,013$). In spite of that, we found significant increase of serum insulin levels in Group 4 compare to Group 1. In addition to this, serum TNF-α levels of Group 3 and Group 4 were higher compared to Group 1. Sperman's correlation coefficients between serum ChE and insulin levels, between ChE and TNF-α levels, and between insulin and TNF- α levels were $r^2= -0.529$, $r^2= - 0.843$, and $r^2= 0.613$, respectively.

Conclusion: We observed that Malathion inhibited serum ChE activity, increased insulin and levels inflammation depending on increased doses. Besides, we found strong correlations among the mentioned parameters.

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TO TRANSFUSE OR NOT?-CASE PRESENTATION

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Aim of the study: The goal is treating anemia with the balance of optimizing oxygen delivery with the minimal risk and cost. No single criterion should be used as an indication for red cell component therapy, multiple factors related to the patient's clinical status and oxygen delivery needs should be considered.

Methods: NICE transfusions guideline 2015 recommends a hemoglobin target value 7-9 mg/dl as the transfusion threshold for healthy individuals, whereas hemoglobin value of 9-10 for patients suffering from end-stage diseases. Often the decision to transfuse patients is based on their clinical status and closed laboratory investigations.

Results (case presentation): a 36 year old female patient, with unremarkable past medical history, presented with upper gastrointestinal bleeding due to gastric ulcer evidenced by fibrogastroscopy examination. His blood pressure was 87/56 mmHg and heart rate 137 beats a minute. The blood chemistry revealed hemoglobin level 5.3 mg/dl, hematocrite 16%, and blood group 0(I) Rh negative. A gastrotomy homeostasis with primary suture was performed after the sclerotherapy failed. The blood bank offered positive Rhesus blood, but the patient was not transfused in order to avoid the immunization. Postoperative period was unremarkable and patient discharged from the hospital in 5-th postoperative day.

Conclusions: The decision to transfuse patients must take in consideration the clinical status, laboratory data, and transfusion risks.

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