



2. INTERNATIONAL  
**Marcus Aurelius**  
Scientific Research Congress  
18-19 April 2026  
**ANKARA**



**EDITORS:**

**Prof. Dr. Aybaba HANÇERLİOĞULLARI**

**Prof. Dr. Figen BALO**

[www.isarcconference.org](http://www.isarcconference.org)



**CONGRESS BOOK**



## **CONGRESS ID**

### **CONGRESS TITLE**

**2. INTERNATIONAL MARCUS AURELIUS SCIENTIFIC RESEARCH CONGRESS**

### **DATE AND PLACE**

**18-19 APRIL 2026 ANKARA, ONLINE PRESENTATIONS**

### **ORGANIZATION**

**ISARC INTERNATIONAL SCIENCE AND ART RESEARCH CENTER**

### **GENERAL COORDINATOR**

**Uzm. Yasemin AĞAOĞLU**

### **EDITOR**

**Prof. Dr. Aybaba HANÇERLİOĞULLARI**

**Prof. Dr. Figen BALO**

**ISBN: \*\* 978-625-378-642-7 \*\***

*\*Yayımlanan bildirlerden, yazarlar sorumludur.*



## ORGANIZING COMMITTEE

Prof. Dr. Cenk YAVUZ  
Prof. Dr. Mahire HÜSEYNOVA  
Prof. Dr. İbrahim BAYRAMOV  
Prof. Dr. Hilmi YÜCEL  
Prof. Dr. Kübra KARAMAN  
Prof. Dr. Mehmet DEMİR  
Prof. Dr. Mukadder MOLLAOĞLU  
Prof. Dr. Neslihan ŞAHİN  
Prof. Dr. Sancar BULUT  
Prof. Dr. Serpil ÜNYER SARAYDIN  
Prof. Dr. Tolga ULLUSOV  
Prof. Dr. Yedigörmüş GÜLSEVEN SİDİR  
Assoc. Prof. Dr. Ahmet AKKOŞE  
Assoc. Prof. Dr. Başak Gül AKAR  
Assoc. Prof. Dr. Caner YERLİ  
Assoc. Prof. Dr. Çiğdem BOGENC  
Assoc. Prof. Dr. Elif Feyza TOPDAŞ  
Assoc. Prof. Dr. Erhan ERDEL  
Assoc. Prof. Dr. Filiz RANDA ZELYÜT  
Assoc. Prof. Dr. Gamze Ebru ÇİFTÇİ  
Assoc. Prof. Dr. Günül HASANOVA  
Assoc. Prof. Dr. Hüseyin Murat İŞİK  
Assoc. Prof. Dr. Orhan TURAN  
Assoc. Prof. Dr. Malik YILMAZ  
Assoc. Prof. Dr. Melih OKCU  
Assoc. Prof. Dr. Narsen İŞİK  
Assoc. Prof. Dr. Özlem ÜLGER DANACI  
Assoc. Prof. Dr. Sabire YARİŞ  
Assoc. Prof. Dr. Seda BENLİ  
Assoc. Prof. Dr. Sema SAĞLIK  
Assoc. Prof. Dr. Şükrü KALAYCI  
Assoc. Prof. Dr. Zang TEHMEZOV  
Assoc. Prof. Dr. Zeynep Deniz ŞAHİN İNAN  
Assoc. Prof. Dr. Zühal OKCU  
Dr. Abdullah ATILGAN  
Dr. Canan TERCAN  
Dr. Elvan CAFEROV  
Dr. Fatma AZİZOĞLU  
Dr. Günül GÖKÇAY  
Dr. Lalay USLU AZARAK  
Dr. Mine KIRKYOĞLU  
Dr. Sevil ÖZCAN  
Dr. Sümeyye GÖKÇENOĞLU  
Dr. Songül ŞENTÜRK  
Dr. Rana BAYTİN ALACI

## SCIENCE AND ADVISORY COMMITTEE

---



- Prof. Dr. Adil AKINCI  
Bilecik Seyh Edebali University
- Prof. Dr. Ahmet AKKOSE  
Atatürk University
- Prof. Dr. Aparna SRIVASTA  
Noida International University
- Prof. Dr. Ahmet Niyazi ÖZKER  
Bandirma Onyedli Eylül University
- Prof. Dr. Ali AKIL  
Saliye Parali University
- Prof. Dr. Ali OKATAN  
İstanbul Aydın University
- Prof. Dr. Anvar ABBASOV  
Azərbaycan Dövlət Pedaqoji Universiteti
- Prof. Dr. Anwar Ali Shah G. SYED  
University Of Sindh Jamshoro
- Prof. Dr. Asım KAYGUSUZ  
İstanbul University
- Prof. Dr. Arif BARANLI  
Sileyman Demirel University
- Prof. Dr. Congli SARIKURKCU  
Atiyankarahisar University
- Prof. Dr. Cenk YAVUZ  
Sakarya University
- Prof. Dr. Ekrem Yapar AKÇAY  
Sileyman Demirel University
- Prof. Dr. Emrullah FATİS  
Kocaeli Ahi Evran University
- Prof. Dr. Fair Muhammad SHAIKH  
Sindh Agriculture University Tando Jam
- Prof. Dr. Gülçin YAHYA KAÇAR  
Ankara Hacı Bayram Veli University
- Prof. Dr. Hüsnü Hüseyin DOĞAN  
Selçuk University
- Prof. Dr. Hazim Abd Mohammed ALJEWAREE  
Alkatab University
- Prof. Dr. Hafe BOĞA  
Dicle University
- Prof. Dr. Haluk ÖZPARLAK  
Selçuk University
- Prof. Dr. Hilmiya ÇİÇEK  
Gaziantep University
- Prof. Dr. Gülşen ASMAN  
Gazi University
- Prof. Dr. Ivan PAVLOVIC  
Scientific Institute of Veterinary Medicine of Serbia
- Prof. Dr. İbrahim BAYRAMOV  
Azerbaijan Devlet Pedagoji University
- Prof. Dr. İbrahim KESKİN  
İstanbul University
- Prof. Dr. Jan SADIENA  
University Of Delhi
- Prof. Dr. Kübra KARAMAN  
Yozgat Buzak University
- Prof. Dr. Mehmet Firat BARAN  
Sirt University
- Prof. Dr. Mehmet SAHİN  
Gaziantep University
- Prof. Dr. Morakong Edward  
Kenneth IEBAKA University Of Zululand
- Prof. Dr. Mukadder MOLLAOĞLU  
Cambridge University
- Prof. Dr. Mansur ÇOĞURU  
The Malazgirt University
- Prof. Dr. Mustafa Fedai ÇAVUŞ  
Osmaniye Korkut Ata University



- Prof. Dr. Mustafa MELE  
Gantantop University
- Prof. Dr. Mustafa Omar ALADAG  
Selenk University
- Prof. Dr. Nurdan KALAYCI  
Gazi University
- Prof. Dr. Neelhan SAHİN  
Sivas Cumhuriyet University
- Prof. Dr. Orhan ZEYBEK  
Balıkesir University
- Prof. Dr. Samir BULUT  
Kaysari University
- Prof. Dr. Selahattin YAVUZ  
Erzincan Binali Yıldırım University
- Prof. Dr. Seyfi SEVİK  
HİH University
- Prof. Dr. Sevil ÖZ  
Ankara Hacı Bayram Veli University
- Prof. Dr. Songül ÇAKMAKÇI  
Atatürk University
- Prof. Dr. Vadigar GÜLSEVEN SİDİR  
BİHİ Eren University
- Prof. Dr. Zharkynshike SULEIMENOVA  
Kazakh National Women's Pedagogical University
- Prof. Dr. Zâhî GÜROCAK  
Fırat University
- Assoc. Prof. Abdurrahman KARAMAN  
Uşak University
- Assoc. Prof. Dr. Elzahkir DERICAN  
Marmara University
- Assoc. Prof. Dr. Eda ÖZ ÇELİKBAŞ  
Karabük University
- Assoc. Prof. Dr. Erhan ERDEL  
İğdir University
- Assoc. Prof. Dr. Fariz AHMADOV  
Azerbaijan Devlet İhtisat University
- Assoc. Prof. Dr. Faruk KALAY  
Yüzüncü Yıl University
- Assoc. Prof. Dr. Günel SAMEDOVA  
Azerbaijan Devlet Pedagoji University
- Assoc. Prof. Dr. İbrahim DAŞDEMİR  
Atatürk University
- Assoc. Prof. Dr. İsmail YILDIRIM  
Atatürk University
- Assoc. Prof. Dr. Kalsoom TARIQ  
Khyber Girls Medical College
- Assoc. Prof. Dr. Müzaffer DENİZ  
Van Yüzüncü Yıl University
- Assoc. Prof. Dr. Naile KIZILDAĞ ÖZDAL  
Çukurova University
- Assoc. Prof. Dr. Nazem AKİTER  
Shaheed Benazir Bhutto Woman University
- Assoc. Prof. Dr. Nazım İŞİK  
Dicle University
- Assoc. Prof. Dr. Orhan TURAN  
Batman University
- Assoc. Prof. Dr. Özlem GÜNDOĞDU AYTAC  
Kırşehir Ahi Evran University
- Assoc. Prof. Dr. Özlem KAYA  
Uşak University
- Assoc. Prof. Dr. Reyhan DADAŞOVA  
Azerbaijan Bakü Bina University
- Assoc. Prof. Dr. Roziya KHATTAK  
Shaheed Benazir Bhutto Woman University
- Assoc. Prof. Dr. Abdülkerim DİLER  
Atatürk University



- Assoc. Prof. Dr. Arnold MBON  
Marian Ngonabi University
- Assoc. Prof. Dr. Asımın SAVAŞCIHABEŞ  
Nuh Naci Yazgan University
- Assoc. Prof. Dr. Azimbaeva GULBAYRA  
Kazakh National Women's Pedagogical University
- Assoc. Prof. Dr. Betül GÜZELDIR  
Atatürk University
- Assoc. Prof. Dr. Cigdem BOGENC  
Karabük University
- Assoc. Prof. Dr. Em Faysa TOPDAŞ  
Atatürk University
- Assoc. Prof. Dr. Hısan TELLİ  
Mardin University
- Assoc. Prof. Dr. Oqtay QULİYEV  
Azerbaijan Devlet İhtisat University
- Assoc. Prof. Dr. Ömer Faruk RENÇBER  
Gaziantep University
- Assoc. Prof. Dr. Sabire VARİŞ  
Dicle University
- Assoc. Prof. Dr. Salman Hashir MEMON  
Shah Abdul Latif University
- Assoc. Prof. Dr. Sevcin YILDIZ  
Akdeniz University
- Assoc. Prof. Dr. Syed Ali  
Raza NAQVI Government College University Faisalabad
- Assoc. Prof. Dr. Tamer TURGUT  
Atatürk University
- Assoc. Prof. Dr. Victoria POSTOLACHE  
Alexa Russo Baki State University
- Assoc. Prof. Dr. Yılmaz KÜÇÜK  
Gazi University
- Assoc. Prof. Dr. Yılmaz SÖÇÜM  
Necmettin Erbakan University
- Assoc. Prof. Dr. Zangir TEHMEZOV  
Azerbaijan Devlet Pedagoji University
- Dr. Ajay B. GADICHA  
Sant Gadge Baba Amravati University
- Dr. Anira TANDIROVİÇ GURSEL  
Adana Alparslan Türkeş University of Science and Technology
- Dr. Andae Kutay SAKA  
Ordu University
- Dr. Aqil MEMMEDOV  
Azerbaijan Devlet İhtisat University
- Dr. Babak SAFAEI  
Tajikistan University
- Dr. Elpen MEMMEDLI  
Azerbaijan Devlet İhtisat University
- Dr. Esra KESER  
Osmaniye Korkut Ata University
- Dr. Faical SULTAN  
Hazar University
- Dr. Ghanshyam BARMAN  
Uka Tarsadhi University
- Dr. Gülnar MİRZEYEVA  
Azerbaijan Devlet İhtisat University
- Dr. Gülsen MEHERREMOVA  
Azerbaijan Diller University
- Dr. Hamdi DAĞISTANLI  
Ankara University
- Dr. Hassan ZAHEDI  
Mohammed First University
- Dr. İrem Lijaqi AWAN  
Government College University
- Dr. Irina-Ana DRĂBOI  
Technical University of Civil Engineering Bucharest, Romania



Dr. İslam DEVRİM  
MER  
Dr. Juanita BERNİK  
West Pomeranian University of Technology  
Dr. Murat KAYA  
Kayseri University  
Dr. Mine KIRKYOL  
Ardvin Çoruh University  
Dr. Mİslim ÖZTÜRK  
Kilis 7 Aralık University  
Dr. Nurluca AKHULAYEV  
Azerbaijan Devlet İktisat University  
Dr. Bana BAYTİN ALACI  
VAN YY University  
Dr. Bida ZULFIQAR  
University of Sogood  
Dr. Taha Yasin ÖLMEZTOPRAK  
Adiyaman University  
Dr. Taha DOĞRUCU  
European University  
Dr. Yagor SUBAŞI  
Van Yüzüncü Yıl University  
Dr. Yeşim BERRİ  
Atatürk University  
Dr. Aygün MEHERREMOVA  
Bakü Devlet University  
Dr. AH ARSHAD  
University Utara  
Dr. Bhavesh AWASTHI  
Jawahar University India  
Dr. Chems Eddine BOUKHEDIMI  
University of Tiel-Guzou  
Dr. Moses Adenle AGOR  
Lagos State University of Education  
Dr. Muhammad İBRAN  
Government College University

---

**2. INTERNATIONAL MARCUS AURELIUS SCIENTIFIC  
RESEARCH CONGRESS  
18-19 APRIL 2026  
ANKARA**

---

# **Congress Program**

*Participant Countries:*



*Algeria, Azerbaijan, Georgia, India, Indonesia, Morocco, Nigeria, Romania, Serbia, Ukraine, Vietnam*

#### **IMPORTANT, PLEASE READ CAREFULLY**

To be able to make a meeting online, login via <https://zoom.us/join> site, enter ID instead of "Meeting ID or Personal Link Name" and solidify the session. The presentation will have **15 minutes** (including questions and answers). The Zoom application is free and no need to create an account. The Zoom application can be used without registration. The application works on tablets, phones and PCs. Speakers must be connected to the session **10 minutes before** the presentation time. All congress participants can connect live and listen to all sessions. During the session, your camera should be turned on at least 70% of session period. Moderator is responsible for the presentation and scientific discussion (question-answer) section of the session.

#### **TECHNICAL INFORMATION**

Make sure your computer has a microphone and is working. You should be able to use screen sharing feature in Zoom. Attendance certificates will be sent to you as pdf at the end of the congress. Moderator is responsible for the presentation and scientific discussion (question-answer) section of the session. **Before you login to Zoom please indicate your name surname and hall number, exp. Hall-I, Fatih KARİPOĞLU**

#### **ÖNEMLİ DİKKATLE OKUYUNUZ LÜTFEN**

Kongremizde Zoom Kurallarna uygun gönderilmiş ve bilimsel kurallardan geçen bildiriiler için online (video konferans sistemi üzerinden) sunum imkanı sağlanmıştır. Sunumlar için **15 dakika** (soru ve cevaplar dahil) süre ayrılmıştır. Online sunum yapabilmek için <https://zoom.us/join> sitesini üzerinden giriş yaparak "Meeting ID or Personal Link Name" yerine ID numaranızı girerek oturuma katılabiliyorsunuz. Zoom uygulamasını indiriyorsanız ve hesap oluşturmayıza gerek yoktur. Zoom uygulamasını kaydolmadan kullanabilirsiniz. Uygulama tablet, telefon ve PC'lerde çalışıyor. Her oturumdaki sunucular, sunum süresinden **10 dk önce** oturuma bağlanmaya başlamaları gerekmektedir. Tüm kongre katılımcıları canlı bağlantı ile oturumları dinleyebilir. Moderator – oturumdaki sunum ve bilimsel tartışma (soru-cevap) kısmından sorumludur.

#### **TEKNİK BİLGİLER**

Bilgisayarınızda mikrofon eklendiğine ve çalıştığına emin olun. Zoom'da ekran paylaşımı özelliklerine kullanılabiliyorsunuz. Katılım belgeleri kongre sonunda taradığınız pdf olarak gönderilecektir. Kongre programında yer ve saat değişikliği gibi talepler dikkate alınmayacaktır. Zoom'a giriş yaparken önce **hiften adınızı, soyadınızı ve SALON numaranızı yazınız. Örnek: Hall-I, Fatih KARİPOĞLU**

**MEETING ID: 828 5911 3712**

**PASSCODE: 476569**

<https://us02web.zoom.us/j/82859113712?pwd=U7w4EjMSch8q8Ehc7pEAbdTta0Tr1aG.1>

**18.04.2026 / Session-2 Hall-5**

	<b>ANKARA LOCAL TIME</b>		<b>MEETING ID: 828 5911 3712</b>
	<b>10<sup>30</sup> : 12<sup>30</sup></b>		<b>PASSCODE: 476569</b>

**HEAD OF SESSION: Dr. S. SELVAM**

TOPIC TITLE	AUTHORS	AFFILIATION
The Psychology Of Online Addiction	S. DHARANI Dr. S. SELVAM	Nadar Mahajana Sangam S. Vellaichamy Nadar College, India
AI-Powered Fake News Detection using Deep Learning	B. KOPIKA Dr. S. SELVAM	Nadar Mahajana Sangam S. Vellaichamy Nadar College, India
The Study Of Expert Systems And AI Models	C. Chinna THAMBI, M. KISHORE Dr. S. SELVAM	Nadar Mahajana Sangam S. Vellaichamy Nadar College, India
AI in Transportation and Traffic Management	R. KAMALAM, M. DEVIBALA Dr. S. SELVAM	Nadar Mahajana Sangam S. Vellaichamy Nadar College, India
Pulmonary Thromboembolism After Orthopedic Knee Surgery. Initial Hospital Treatment And 1 Year Follow Up	Poposka BILJANA, Ramov LEONID Spasovska MARIJA, Pejkovska SAVA	University Clinic fo pulmonology and allergology
Granulomatosis With Polyangiitis (Wegener's Granulomatosis), Diagnosis With Kidney Biopsy And Initial Immunosuppressive Treatment	Ramov LEONID, Zdraveska MARIJA Severova Andrejevska GALINA Gachev FILIP, Dimitrievska DESKA	University Clinic for pulmonology and allergology University Clinic for nephrology, University Clinic for rheumatology
Integrated Nitrogen Management for Environmental and Agricultural Sustainability	ELABBARI Chaimaa, Pr. Labjar NAJOUA Oujidane EL OUALI, EL BOUZIDI Ahmed ZINAOUI Badre, Pr. EL Hajjaji SOUAD	Mohammed V University in Rabat
Production And Characterization Of Carbon Nanotubes From Biochar Under Microwave Irradiation	Faisal NAZIR	The University Of Agriculture, Faisalabad

## GRANULOMATOSIS WITH POLYANGIITIS (WEGENER'S GRANULOMATOSIS), DIAGNOSIS WITH KIDNEY BIOPSY AND INITIAL IMMUNOSUPPRESSIVE TREATMENT

**Ramov LEONID**

University Clinic for pulmonology and allergology, Skopje, Republic of North Macedonia.

**Zdraveska MARIJA**

University Clinic for pulmonology and allergology, Skopje, Republic of North Macedonia.

**Severova Andreevska GALINA**

University Clinic for nephrology, Skopje, Republic of North Macedonia.

**Guchev FILIP**

University Clinic for rheumatology, Skopje, Republic of North Macedonia.

**Dimitrievska DESKA**

University Clinic for pulmonology and allergology, Skopje, Republic of North Macedonia.

### Abstract

**Introduction:** Wegener's granulomatosis (WG) is a rare long-term systemic disorder that involves the formation of granulomas and inflammation of blood vessels (vasculitis). The aim of this study was to present a case of (WG) that was diagnosed with kidney biopsy while the lung infiltrates were not reachable. Materials and methods: 60-year-old male patient who underwent initial preparation for invasive diagnostic, kidney biopsy and initial immunosuppression Results: The patient complained of nasal congestion, weight loss, prior positive C-ANCA, and a CT scan showing multiple bilateral lung infiltrates and an inconclusive result from a nasal mucosa biopsy. Initial lab results showed higher creatinine, albuminuria, suggestive of kidney involvement. Being difficult to biopsy the lung infiltrate due to their position and size and considering the risk of false negative yield. The kidney involvement enabled us to do a kidney biopsy previously discussed with a nephrologist. The biopsy confirmed a vasculitis with positive C-ANCA confirming (WG). A high dose of Methylprednisolone (500mg for 3 day, then 250 for 3 day and finally 125mg for 3 days) A cyclophosphamide and maintenance dose steroids therapy was initiated by a consulting rheumatologist after discharge. A switch to rituximab in the future if the initial treatment failed was also considered. A complete remission of the lung involvement was seen on a CT 2 months after. Discussion: The least invasive site for biopsy being the nasal mucosa is always the best site for biopsy. Having received an inconclusive result leaves the kidney and the lung as secondary options in our case the kidney was considered due to a better possible yield of viable material Conclusion: Present kidney involvement is always a site for biopsy with a high yield for confirming (WG) despite the risk of bleeding complications who were absent in our case.

**Key words:** Wegener's granulomatosis, lungs involvement, kidney involvement.

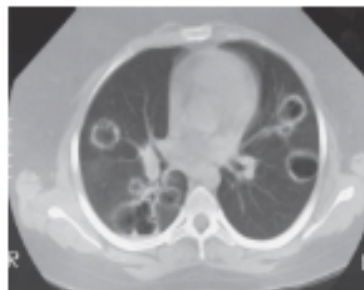
## Introduction

Granulomatosis with polyangiitis (GPA), formerly known as Wegener's granulomatosis (WG) is a rare long-term systemic disorder that involves the formation of granulomas and inflammation of blood vessels (vasculitis). (1,4)

*Granulomatosis with polyangiitis* is a distinct clinicopathologic entity characterized by granulomatous vasculitis of the upper and lower respiratory tracts together with glomerulonephritis. In addition, variable degrees of disseminated vasculitis involving both small arteries and veins may occur. (1,4)

Granulomatosis with polyangiitis has an estimated prevalence of 3 per 100,000. It is extremely rare in blacks compared with whites; the male-to-female ratio is 1:1. The disease can be seen at any age; ~15% of patients are <19 years of age, but only rarely does the disease occur before adolescence; the mean age of onset is 40–60 years (1,4)

The histopathologic hallmarks of granulomatosis with polyangiitis are necrotizing vasculitis of small arteries and veins together with granuloma formation, which may be either intravascular or extravascular. Lung involvement typically appears as multiple, bilateral, nodular or cavitary infiltrates which on biopsy can reveal necrotizing granulomatous vasculitis. Upper airway lesions, particularly those in the sinuses and nasopharynx, typically reveal inflammation, necrosis, and granuloma formation, with or without vasculitis. In its earliest form, renal involvement is characterized by a focal and segmental glomerulonephritis that may evolve into a rapidly progressive crescentic glomerulonephritis. Granuloma formation is only rarely seen on renal biopsy. In contrast to other forms of glomerulonephritis, immune complex deposition is not found in the renal lesion of granulomatosis with polyangiitis (pauci-immune glomerulonephritis). In addition to the classic triad of disease of the upper and lower respiratory tracts and kidney, virtually any organ can be involved with vasculitis, granuloma, or both. (1,4)



**(Fig1)** CTscan of a patient with granulomatosis with polyangiitis.

**The aim of this study** was to present a case of (WG) that was sent to our clinic for diagnostics due to lung involvement previously seen on a CT scan

#### **Materials and methods**

A 57-year-old male patient who underwent full clinical evaluation and invasive diagnostics in our clinic between 11.11.2024 and 26.11.2024 and the 1<sup>st</sup> year of militance therapy done by a rheumatologist.

#### **Results**

The patient was admitted with nasal congestion, weight loss, elevated C-ANCA, and a CT scan showing multiple bilateral lung infiltrates. Previous to the hospitalization the patient had a non-conclusive nasal mucosa biopsy and broncho biopsy. During the hospitalization the patient had reduction in creatinine clearance, loss of albumin, suggestive of kidney involvement. A rheumatologist was consulted, who asked for other lung conditions to be excluded, regardless of having the necessary criteria for the diagnosis. To biopsy the infiltrates in the lung was technically difficult due to their position and size and also with a high risk of getting a false negative biopsy or complications involving the biopsy process. Having kidney involvement, a kidney biopsy was scheduled, previously discussed with a nephrologist. The biopsy confirmed an early kidney involving vasculitis (pauci-immune glomerulonephritis) with positive C-ANCA confirming (WG). A high dose Methylprednisolone was given afterwards with decrease in the doses every 3 days as per protocol. A rheumatologist was consulted again, who initiated therapy with cyclophosphamide and maintenance dose steroids after discharge, with a consideration for a switch to rituximab in the future. After 2 months of the initial treatment a control CT of the lungs was performed with no progression of the lung involvement. After the initial treatment the patient is now regularly followed by a rheumatologist. The cyclophosphamide currently 750mg is administered once each month (with consideration to reduce it to once each 3 months), together with a 500mg of i.v methylprednisolone. The maintenance therapy consists of prednisolone 10mg daily (down from 60mg daily), Tbl. Mycophenolate mofetil a 500mg 2x3 and pain medication when needed. With the current regiment the last Lab analysis show mild 24hour proteinuria od 0,231g/du (down from 1,15) and serum creatinine of 118 (down from 174) – with creatinine clearance calculated by Cockcroft-Gault of 73 ml/min (Stage 2 CKD). After the initiation of the treatment the patient developed oropharyngeal candidiasis which was treated with regular antimycotic regiment and 2 times an upper-mid airway infection that required short hospitalization. Both cases are considered complications of the initiated

immunosuppressive therapy. Until now no other side effects were reported regarding the treatment and no other complications involving the disease itself.

#### **Discussion:**

(WG) being a systematic disease requires a systematic and multidisciplinary approach both for diagnosis and the initial and maintenance treatment. Having typical clinical presentation and increased c-ANCA with lung and kidney involvement is enough to apply a work diagnosis. The diagnosis needs to be confirmed with a biopsy. The safest site is the nasal mucosa with the kidney and the lung being the other 2. If the lung infiltrates or the mucosal edema is inconclusive or not available for viable biopsy due to any reason, a kidney biopsy can always help for diagnosing (WG), with C-ANCA being the second key criteria. The initial treatment is done as soon as the biopsy is confirmed by the specialist who is doing it (in this case a pulmonologist). The maintenance treatment is done by a rheumatologist (2,3,5,10).

#### **Conclusion**

Lung nodules with decrease in kidney function and positive C-ANCA complete the diagnostic criteria for (WG), biopsy of either the kidney or the lung is not regularly performed unless for exclusion of other conditions or to deal with inconclusiveness. The site for biopsy is usually the nasal or upper airway mucosa being the site of least complications. Although being a rare disease and previously fatal within few months of diagnosis, currently there are well established criteria for treatment and fast diagnosis. Remission is achieved in 50-70% of the patients, however relapses are common and found in 43% of the patients within 1 year of remission. The 2<sup>nd</sup> line treatment involving Rituximab, Avacopan and other biologic agents was not initiated during the current follow-up of this patient.

#### **References**

1. Finkielman JD Peter A Merkel, Darrell Schroeder, et al (2007): Antiproteinase 3 antineutrophil cytoplasmic antibodies and disease activity in Wegener granulomatosis. *Ann Intern Med.* 147:611.
2. Jayne D Niels Rasmussen, Konrad Andrassy, et al: A randomized trial of maintenance therapy for vasculitis associated with antineutrophil cytoplasmic autoantibodies. *N Engl J Med* 349:36, 2003.
3. Jayne DRW David R, Peter A. Merkel, M.D., M.P.H., Thomas J. Schall, Ph.D., and Pirow Bekker, M.D, Ph.D. et al: Avacopan for the treatment of ANCA-associated vasculitis. *N Engl J Med* 18:599, 2021.
4. Jennette JC R J Falk, P A Bacon, N Basu, M C Cid, F Ferrario, et al: 2012 revised International Chapel Hill Consensus Conference Nomenclature of Vasculitides. *Arthritis Rheum* 65:1, 2013.
5. Smith RM Rachel B Jones<sup>2</sup>, Ulrich Specks et al: Rituximab versus azathioprine for maintenance of remission for patients with ANCA-associated vasculitis and relapsing disease: An international randomised controlled trial. *Ann Rheum*
6. Granulomatous vasculitis S P Hammar<sup>1</sup> (1995) *Semin Respir Infect* 1
7. Overview of the 2012 revised International Chapel Hill Consensus Conference nomenclature of vasculitides. Jennette JC.



8. Nomenclature of cutaneous vasculitides - German translation of the dermatologic addendum to the 2012 Revised International Chapel Hill Consensus Conference Nomenclature of Vasculitides. Sunderkötter C, Lamprecht P, Mahr A, Metz D, Zelger B. *J Dtsch Dermatol Ges*. 2018 Dec;16(12):1425-1432. doi: 10.1111/ddg.13703.
9. Falk RJ, Jennette JC. Anti-neutrophil cytoplasmic autoantibodies with specificity for myeloperoxidase in patients with systemic vasculitis and idiopathic necrotizing and crescentic glomerulonephritis. *N Engl J Med* 1988;318:1651-1657.
10. Koldingsnes W, Nossent H. Predictors of survival and organ damage in Wegener's granulomatosis. *Rheumatology (Oxford)* 2002;41:572-581.
11. Corral-Gudino L, Borao-Cengotita-Bengoa M, Del Pino-Montes J, Lerma-Márquez JL. Overall survival, renal survival and relapse in patients with microscopic polyangiitis: a systematic review of current evidence. *Rheumatology (Oxford)* 2011;50:1414-1423.