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# OSTEOPOROSIS INTERNATIONAL

with other metabolic bone diseases

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menopauses. Anamnesis reveals that 20.78% of these cancer patients have experienced bone fractures, while fractures were also reported in family members of 38.96% of the studied group. Smoking showed to be an insignificant factor in osteoporosis.

**Conclusions:** We have found a high osteoporosis prevalence of 33.77% among the 154 chemotherapeutically treated cancer patients included in this study, despite concurrent antiresorptive treatment. Osteoporosis prevalence is slightly higher in this group (33.77%) than in non-cancer females (28.9%; a previous study on 5900 females with an average age of 57.3 years old). Bone density should be routinely checked in cancer patients as to prevent osteoporosis complications. Detailed analysis of factors leading to osteoporosis in cancer patients should be further investigated.

#### P1200

### INDEX OF THE OSTEOPOROTIC RISK (IOR) IN THE EVALUATION OF THE POSTMENOPAUSAL OSTEOPOROSIS

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**Objective:** Assessing bone marker levels and their relationship is useful in predicting and diagnosing osteoporosis. The aim of this study was to discover IOR and the importance of the bone markers relationship determination in the early detection of the high osteoporotic risk (OR) individuals in postmenopausal women (PM).

**Methods:** Bone turnover markers and IOR were evaluated in PM women with osteoporosis (PMOP) and osteopenia (PMOS), and were compared to control groups of young women (C) and PM controls (PMC). PMOP and PMOS were not different according to their age. Bone turnover markers N-MID osteocalcin (O) and  $\beta$ -CrossLaps (CTX) were determined, as well as their ratio  $IOR=O/CTX$ . O and CTX levels were expressed in ng/ml. Higher IOR levels indicated lower osteoporotic risk.

**Results:** O levels were (27.98 $\pm$ 9.31 ng/ml), CTX (0.51 $\pm$ 0.18 ng/ml), and IOR levels (53.95 $\pm$ 4.9) in PMOP, as well as in PMOS, O (24.39 $\pm$ 5.98 ng/ml), CTX (0.4 $\pm$ 0.11 ng/ml) and IOR levels (61 $\pm$ 4.78). Control group had O (18 $\pm$ 5 ng/ml), CTX (0.24 $\pm$ 0.1 ng/ml), and IOR (70 $\pm$ 7.8). O values in PMC were (19.5 $\pm$ 5.97 ng/ml), CTX (0.27 $\pm$ 0.1 ng/ml) and IOR (71.98 $\pm$ 6.4). PMOP had highly significantly higher CTX and O values compared to C and PMC ( $p<0.0001$ ), and significantly higher compared to PMOS ( $p<0.001$ ). IOR was highly significantly lower in PMOP compared to C, PMC and PMOS ( $p<0.0001$ ).

**Conclusion:** PMOP were characterized with highest CXT and lowest IOR levels indicating highest OR associated with osteoporosis in this group. IOR differentiated best the increased OR in PMOP compared to the other groups, confirming its predictive and diagnostic importance in determining the OR in PM women. CTX and O levels were higher in PMOP women, but O were higher less compared to CTX, and consecutive IOR values were lower, confirming predominance of bone resorption in relation to bone formation in PMOP, which indicated increased bone turnover and consecutive osteoporosis.

#### P1201

### RELATIONSHIP BETWEEN FALLS RISK, FEAR OF FALLING AND PHYSICAL ACTIVITY IN ELDERLY PEOPLE

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**Objective:** To investigate the associations between falls risk, fear of falling and physical activity in community-dwelling elderly people.

**Methods:** The study involved community-dwelling people aged 65 years and over, without diseases or conditions which could dramatically

decrease their mobility. Timed up & go test was used to evaluate fall risk while physical activity was assessed by Physical Activity Scale for the Elderly (PASE) questionnaire. Fear of falling was evaluated using short version of the Falls Efficacy Scale-International (Short FES-I). The statistical analysis was performed using SPSS software for Windows (version 18.0).

**Results:** The study population consisted of 107 people (73 women and 34 men) aged from 65-89 years (mean age 74.2 $\pm$ 6.3 years). Falls during the previous 12 months were reported by 58.9% (n=63) subjects. Of those who fell during the previous year, 43 (68.3%) reported one fall, the others had fallen twice or more. Fallen respondents more often stated they feel pain, depression or anxiety, and 90.2% of them reported fear of falling (comparing to 60.5% of non-fallers,  $p=0.015$ ). When two age groups – under 75 years old (n=56, mean age 68.93 $\pm$ 3.56 years) and aged 75 years and over (n=51, mean age 82.26 $\pm$ 3.84 years) – were compared, it was found that one or more falls during previous 12 months were experienced by all subjects in the older age group and by 24 (42.9%) subjects in younger group. Physical activity was negatively associated with falls risk in subjects aged 75 years and over ( $r=-0.61$ ;  $p<0.001$ ), but no statistically significant relationship was found in younger group. The mean result of timed up & go test was lower in younger group ( $p<0.05$ ).

**Conclusions:** In community-dwelling elderly people who had fallen during the previous year, the falls risk and fear of falling was higher than in those who have not experienced fall. In people aged 75 years and older, higher physical activity was associated with lower risk of falling.

#### P1202

### PREVALENCE AND PATTERN OF COMORBIDITIES IN PATIENTS WITH AVASCULAR NECROSIS OF THE FEMORAL HEAD: A CROSS-SECTIONAL STUDY

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**Objectives:** This study aimed to analyze the prevalence and pattern of comorbidities in patients affected by avascular necrosis of the femoral head (ANFH) and to determine if there is a differential pattern of comorbidities in patients with bilateral and unilateral ANFH.

**Materials and Methods:** This was a cross-sectional study, including adult patients with a diagnosis of ANFH according to Ficat and Arlet criteria. Data on comorbidities were collected from medical records and processed with STATISTICA 10.0 using descriptive and nonparametric statistics.

**Results:** Among a total of 104 patients, aged 48 (38-59), a significant prevalence of comorbidities (86.27%) was found. The number of comorbidities was associated with age ( $\rho=0.42$ ,  $p<0.001$ ) and BMI ( $\rho=0.29$ ,  $p<0.001$ ). In patients with bilateral (n=45), compared with those affected by unilateral ANFH (n=59), prevalence of younger age (43.5 (36-51) vs. 54 (43-62),  $p<0.01$ ) and male gender (odds ratio (OR) 2.99 (95%CI 1.28-6.99),  $p<0.05$ ) were detected. A history of cardiovascular diseases (CVD) was more frequent in patients with unilateral ANFH (63.79% vs. 40.91%, OR 3.62 (95%CI 1.67-7.88),  $p<0.05$ ), as well as hypertension (62.07% vs. 34.09%, OR 3.16 (95%CI 1.40-7.17,  $p<0.01$ ). Patients with unilateral ANFH were more likely to have higher number of comorbidities (3.80 (1.17-6.43) vs. 2.89 (0.73-5.05)) and Charlson comorbidity index (0.72 (0.43-1.47) vs. 0.52 (0.43-1.87)).

**Conclusions:** CVD, including hypertension, were more likely to be found in patients with unilateral ANFH, as well as higher comorbidity burden. It can be explained by the fact that patients with CVD received treatment according to national guidelines, including antihypertensive drugs, anticoagulants, statins, etc. This indicates that performing secondary prevention of CVD can be important in both CVD and ANFH, as such treatment can influence on intraosseous blood circulation in the contralateral joint.