WORLD CONGRESS
ON OSTEOPOROSIS,
OSTEOARTHRITIS AND
MUSCULOSKELETAL
DISEASES

VIRTUAL CONGRESS

March 24-26, 2022

IOF International Osteoporosis Foundation

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AbstractBook

the normal BMD was 45.47±4.69 nmol/L; and Group 3 the low BMD was 36.73±8.94 nmol/L, the normal BMD was 42.91±9.1 nmol/L. The following variants of FokI polymorphism: a normal genotype in 27.81% of children, a heterozygous mutation in 61.95% and a homozygous mutation in 10.24% of children. Heterozygous mutations in the FokI polymorphism of the VDR gene were most frequent in the group of children with the low BMD but without GS (72.48%).

Conclusion: The low BMD in school-aged children, especially during the growth spurt, is due to insufficiency or deficiency of vitamin D and is based on genetic factors. However, the fact that bone mass accumulation is not as intensive as linear skeleton growth is the most important factor for a decrease in BMD.

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BISPHOSPHONATE USE AND RISK OF SEVERE ACUTE KIDNEY INJURY IN OLDER PATIENTS WITH COMPLEX HEALTH NEEDS: A SELF-CONTROLLED CASE SERIES

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Objective: To assess the risk of severe acute kidney injury (AKI) associated with oral bisphosphonates (BP) use in older patients with complex health needs.

Methods: We used the CPRD GOLD primary care dataset from UK, linked to Hospital Episode Statistics (HES) inpatient and Office for National Statistics mortality data. All subjects aged >65 at start date (01/01/2010), who did not use BP in 2009 were included. Among these, we identified 3 cohorts of patients with complex health needs, defined by 1) unplanned hospitalisations, 2) frailty and 3) polypharmacy in 2009. For each cohort of complex health needs, we conducted a self-controlled case series (SCCS) among patients with severe AKI recorded during follow-up. Severe AKI was identified based on ICD-10 codes N17 and N19 recorded as main hospital diagnosis in HES, with a 30-day washout to avoid duplicates. BP were identified using product-specific codes in CPRD. Treatment durations were combined to create continuous episodes, allowing for a maximum refill-gap of 90 d. A 90-d period was added to the end of each continuous treatment episode. Incidence rate ratios (IRR) were estimated by comparing AKI rates between exposed and nonexposed periods. SCCS models were adjusted for age. Additionally, we conducted sensitivity analyses to test the assumptions of the SCCS model, including 1) using only the first event per patient, 2) adding a 6-month pre-exposure washout period, and 3) including only patients who survived during follow-up.

Results: We identified 78,184, 94,364 and 95,621 eligible patients in the hospitalisation, frailty and polypharmacy cohort, respectively. Of these, 1950 (2.5%), 3023 (3.2%) and 2992 (3.2%) individuals experienced severe AKI during follow-up. Our SCCS model showed increased risk of AKI associated with BP use in all three cohorts, with IRR 1.50 [95%CI 1.05 - 2.12] in the hospitalisation cohort, IRR 1.65 [1.25 - 2.19] for the frailty cohort and IRR 1.60 [1.22 - 2.08] for the polypharmacy cohort. Sensitivity analyses were consistent with our main results.

Conclusion: Our study found a 50-65% increased risk of severe AKI associated with BP use in older patients with complex health needs.

Acknowledgements: This study was funded by the NIHR. TO reports employment with Chugai Pharmaceutical Co., Ltd.

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ASSOCIATION EXPRESSIONS NESFATIN-1 WITH A MARKER FOR BONE MATRIX FORMATION IN PATIENTS WITH RHEUMATOID ARTHRITIS

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Objective: Currently, the role of tissue cytokines in the pathogenesis of various diseases is being actively studied. Nesfatin-1 (NF-1) is an endogenous peptide with pleiotropic activity [1,2]. The aim of the study was to determine the relationship between the level of NF-1, BMD, composite body composition and markers of bone metabolism in patients with rheumatoid arthritis (RA).

Methods: The study randomized 110 patients with RA, 2010 and 30 people in the control group. All of them underwent osteodensitometry LUNAR DPX-Pro. NF-1 levels and bone turnover markers were determined using ELISA test.

Results: The average concentration of NF-1 in patients with RA was 50.49±34.05 ng/ml, which is significantly higher than in healthy individuals (31.61±3.17 ng/ml) (M±σ). According to the level of NF-1, all patients with RA were divided into 2 subgroups. The 1st group included patients (n=44) with normal serum NF-1 (less than 37.95 ng/ml), the 2nd group (n=66) - patients with elevated NF-1 levels. During the analysis of the results of the study, we revealed a statistically significant correlation between NF-1 and the N-terminal propeptide of type I procollagen (P1NP)) (r=0.218, p=0.022).

Conclusion: Thus, the relationship between nesfatin-1 and a marker of bone matrix formation (P1NP) was revealed.

References:

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DIABETES HAS A GREATER IMPACT ON SUBSEQUENT FRACTURE INCIDENCE IN TIME THAN PREVIOUS FRACTURES, SEX AND AGE: A SURVIVAL ANALYSIS

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Objective: Diabetes may induce osteometabolic disorders that lead to increased fracture risk, relation with subsequent fractures remains unclear. We aimed to establish the impact in time of fragility fractures, age, sex and diabetes on subsequent fractures after an index hip fracture.

Methods: Retrospective, observational and descriptive study. From database of 670 records of patients aged ≥50 y with an index hip fracture between 2014-2017. Follow-up at least 2 months. Retrieved information: previous fracture, age, sex, diabetes and subsequent fracture. Statistical analysis: Central tendency, dispersion, frequency and percentages. T-Student, Chi-square test. Kaplan-Meyer method, logrank test. Cox regression model.

Results: We included 570 patients, mean age 80.09 y (SD=±9.45), 79.8% women. Mean follow-up time 24.8 months (SD=±20.8). Subsequent fractures on 96 cases, mean time to subsequent fracture 25.9 months (SD=±19.5); of these 56.2% occurred within 2 y after incident fracture. No associations were found between previous fracture (p=0.3), sex (p=0.265), and diabetes (p=0.54) for subsequent fractures. Survival analysis only found association for subsequent fractures with diabetes (p=0.01) and biological sex (p=0.03). Cox regression analysis model showed an increased risk only for diabetes (HR=3.8; p=0.017; 95%CI 1.275-11.484).

Conclusion: Patients with diabetes had an increased risk of developing subsequent fractures. Men patients develop subsequent fractures earlier.

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SYSTEMIC LUPUS ERYTHEMATOSUS AND OSTEOPOROSIS

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Objective: To identify osteoporosis in patients with lupus.

Methods: We conducted an observational study, that included 132 patients, diagnosed with systemic lupus erythematosus according to American College of Rheumatology revised criteria. We analyzed demographic, clinical, laboratory data and information about their therapy. Disease activity was assessed according to the Systemic Lupus Disease Activity Index. BMD was measured using DXA. The criteria for diagnosing osteoporosis are those set by the WHO, T-score ≤ -2.5.

Results: Mean age was 43.5±9.6 y, their mean weight was 68.7±8.1 kg, mean height was 158.9±3.2 cm, mean BMI was 25.7±2.3 kg/m^2 and duration of the disease 11.6±4.1 y. 86 (65%) patients had high disease activity, 41 (31%) patients had osteoporosis, 61 (46%) of the patients had osteopenia and 30 (23%) patients had normal values.

Conclusion: Disease duration, disease activity, duration of therapy, patient age, and menopause play an important role in increasing the risk for osteoporosis in patients with Lupus. We recommend the use of calcium and vitamin D supplements as well as bisphosphonate therapy for the prevention and treatment of osteoporosis in order to prevent major consequences, such as vertebral fractures.

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PREVALENCE OF SARCOPENIA AND ITS ASSOCIATION WITH ANTIRHEUMATIC DRUGS IN MIDDLE-AGED AND OLDER ADULTS WITH RHEUMATOID ARTHRITIS: A SYSTEMATIC REVIEW AND META-ANALYSIS

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Objective: Adults with RA have several factors that can be associated with the development of sarcopenia, including chronic systemic inflammation, physical inactivity, and antirheumatic drug use. However, at the time of this review, the prevalence of sarcopenia and the relationship between anti-rheumatic drugs