The change at HAZ and the before treatment fractures rate per year ($r:0.57$; $p=0.07$) were directly proportional. Also, the change at HAZ was inversely proportional to the before treatment Z-score ($r: -0.53$; $p=0.09$) and the BF starting age ($r: -0.53$; $p: 0.09$).

The decrement of fractures rate per year showed a statistical significant relationship with BMI percentile ($r:0.48$; $p=0.08$), the treatment starting age ($r:-0.537$; $p=0.05$) and before treatment fractures rate per year ($r:0.941$; $p<0.001$).

Three patients experienced adverse effects (20%). Three related to zoledronate use: two of them showed flu-like syndrome after first infusion and the other asymptomatic hypocalcemia. In another patient the treatment with alendronate was ended due to gastrointestinal intolerance. There was not significant relationship between adverse effects and our study variables.

Two patients died during the treatment due to their underlying disease complications.

Conclusion: BF are an effective medication for SO. The treatment outcome exhibits to be better with a good nutritional status, younger age and at more severe forms of the disease. Additionally, they are safe showing just minor adverse effects but often.

REFERENCES

- Galindo Zavala R, Núñez Cuadros E, Díaz Cordovés-Rego G., Urda Cardona, AL. Advances in the treatment of secondary osteoporosis. *An Pediatr (Barc)*. 2014; 81(6): 399.e1-399.e7.
- Zemel BS, et al. Height adjustment in assessing dual energy x-ray absorptiometry measurements of bone mass and density in children. *J Clin Endocrinol Metab*. 2010; 95(3): 1265-73.
- Gordon CM, Leonard MB, Zemel BS. 2013 pediatric position development conference: Executive summary and reflections. *J Clin Densitom*. 2014;17 (2): 219-24.

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AB0846 OSTEOPOROSIS IN MEN

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Background: Careful attention to postmenopausal osteoporosis (OP) leads to an underestimation of this problem in men.

Objectives: To assess the frequency of bone mineral density reduction (BMD) in men referred for examination, analysis of bone mineralization disorders in men at different age periods, the main reasons for referral for examination.

Methods: During the year, a two-energy X-ray absorption osteodensitometry (LUNAR XP, USA) was examined by 2,731 patients according to a standard program.

Results: Among the 2731 patients referred for examination, the proportion of men is 5%, men over 60 years old are 2%, male children and teenagers are 0.29%. Normal BMD was detected in 31.88%, low bone mass (LBM) - in 39.86%, OP - in 28.26%.

60.14% (83 people) - men of young and middle age, NCM was detected in 33 men, OP - in 14. In 8 - severe form. Reduced BMD patients revealed the presence of serious underlying disease (ankylosing spondylitis, rheumatoid arthritis (RA), systemic lupus erythematosus, diabetes mellitus I type, diffuse toxic goiter disease operated stomach, ulcerative colitis, chronic autoimmune hepatitis and alimentary toxic hepatitis with outcome in cirrhosis of the liver, bronchial asthma (BA), alveolitis.

Elderly and senile men among the surveyed were 55 people (39.86%), LBM - in 22 of them, OP - in 25. Low traumatic fractures in the anamnesis in this group of patients were detected in 13 of 55. In 6 - multiple vertebral fractures, in 2 - multiple repeated fractures of tubular bones. Secondary causes of a decrease in BMD were detected only in 5 out of

55 (9.09%) men aged 60 years and older (RA, BA, idiopathic alveolitis, liver cirrhosis; all currently or with a history of glucocorticoid therapy). Normal BMD was detected in 44 men. Up to 59, their number was 36 people (81.8%), 60 years and older - only 8 (18.2%). The majority of men with normal BMD indices were sent for examination by dentists, endocrinologists, orthopedic traumatologists. 5 adolescents with BMD in accordance with normal age criteria BMD had repeated traumatic bone fractures in history (fractures during sports (wrestling, football)).

Conclusion: Unlike women, men do not pay enough attention to the prevention of OP, often use dairy products in limited quantities, do not take calcium preparations for prophylactic purposes. A high percentage of the population is characterized by low physical activity. Men more often than women abuse alcohol and smoking.

OP occurs without obvious clinical manifestations until the moment of fracture of the skeleton bones, primary care physicians and hospitals have low alertness for the detection of OP in men. FRAX (fracture risk assessment tool) makes it easy to calculate the probability of a 10-year risk of fractures and identify men at high risk for further examination. The urgency of the problem is due to the increase in the average life expectancy of a modern person.

REFERENCES

- Problemy diagnostiki nizkotravmatichnyh perelomov pozvonkov u lic starshego vozrasta. Pisareva V., Mihajlov M., Poljakov V.[et al]. *Russian Journal of Pain*. 2018. V.56.(2).P.90-1.
- Issledovanie rasprostranennosti osteoporoza, ego oslozhnenij i znachimosti faktorov riska/Zavodovskij B., Sivordova L., Poljakova Ju.[et al]. *Pal-liative medicine and rehabilitation*. 2015. 2. P.9-12.
- Osteoporosis in men: current issues. Simakova E., Seewordova L.[et al]. *Uspekhi Gerontologii*. 2015. V28(1). P 77-9.

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AB0847 INCIDENCE RATES OF OSTEOPOROSIS(OP) RISK FACTORS IN A LARGE URBAN LONDON BOROUGH

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Background: Identification of osteoporosis risk factors(OPRFs) is a necessary part of assessing fracture risk and treating patients with OP. Incidence rates of OPRFs are variably reported in the literature. Patients seen in OP clinics tend to have a higher risk of fractures compared to those managed in primary-care hence the need for closer scrutiny of their OPRFs. In some instances, managing modifiable OPRFs may form the principle part of the patient's management plan.

Objectives: We examined the rates of OPRFs in patients attending the Bone Health Clinic at Croydon Health Services NHS Trust.

Methods: Retrospective review of OP patients seen between February-June 2018 at Purley Memorial Hospital and assessed for presence of OPRFs including: demographics,BMI,early menopause,late menarche,nulliparity,secondary medical conditions,medicines,family history of OP/parental hip fracture,recurrent falls,previous fragility fractures(FFs) and lifestyle OPRFs(smoking,alcohol,low calcium intake,sedentary).

Results: 201 patients were included. Mean age was 70-years-old (range:37-96), with approximately 9:1 female:male ratio. Mean BMI was 23(normal) with approximately 20% being <18.5(underweight). 25.5%(46/180-females) experienced an early menopause(<45-years) but only 8.3%(15/180) had late menarche(>16years). Of the 25.5% with early menopause, only 13%(6/46) had been offered HRT. 17% of women were nulliparous. Of the medical conditions, thyroid disease was the most commonly reported(18%) with a third of these being newly diagnosed in clinic. Coeliac was identified in 7.5% with 5% newly diagnosed. 2% had newly diagnosed haematological disorders (MGUS,Myeloma,Lymphoma). Only 8 patients had 2-or-more diagnoses at the same time. Almost 40% had a family history of OP, 19% history of parental hip fracture and 15% had both. The majority 66.7%(134/201) had experienced a previous FF with 36% having suffered 2 or more. 16%(32/201) had experienced

recurrent falls. 19% were living sedentarily, 11% currently smoking, 10% drinking 3 or more units of alcohol-per-day and 31% having poor dietary calcium, with 22% having 2 or more of these lifestyle OPRFs. Of the medicines, steroids and PPIs were the most commonly seen. Overall, 73%(147/201) of subjects had at least one modifiable OPRF with over half having 2 or more OPRFs.

Conclusion: This study identified numerous OPRFs and their incidences. Low BMI(<18.5) was common in 1/5 patients requiring input from the dietetics team as part of their treatment plan. Early menopause was seen in a quarter of female patients with just over 10% of these being offered HRT; undoubtedly more could have benefited from intervention at menopause. Many medical conditions associated with OP were identified with several patients being newly diagnosed (coeliac/hypothyroidism/haematological disorders especially). Therefore, global health assessments are needed to identify undetected disease and review and optimise control of established disease. Just under 50% had at least one lifestyle OPRF. Therefore, focus on implementing lifestyle alterations is clearly essential in the management of these patients. Given the high number of patients with at least one modifiable OPRF, it is crucial that OP services are organized accordingly to identify OPRFs to intervene and modify these factors as part of the overarching management plan.

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AB0848

BMD AND MUSCLE MASS IN PATIENTS WITH ISCHEMIC HEART DISEASE

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Background: Mounting biological and epidemiological evidence supports a link between the ischemic heart disease (IHD) and osteoporosis (OP), but the studies investigating muscle mass and its relationship with OP in patients with IHD are limited.

Objectives: The aim of this study is to investigate the relationship between OP and muscle mass in patients with IHD.

Methods: The study included 45 patients with IHD (36 males/9 females, mean age 63,16±6,71 years) verified by coronary angiography. BMD was measured by DXA in the the lumbar spine L1-L4, total hip and femoral neck. BMD was evaluated as: normal BMD (T-score ≥-1), osteopenia (T-score between -1 and -2.5) and osteoporosis (T-score of <-2.5). Muscle mass was assessed using computed tomography of total psoas area (TPA) (cm2) and calculating L3 muscle index (LMI) (<52,4 cm2/m2 in men; <38,5 cm2/m2 in women).

Results: The results of densitometry patients were distributed as follows: 30 patients (66,6%) with normal BMD, 12 (26,6%) with osteopenia and 3 (0,66%) with osteoporosis. Patients was divided into 2 groups: 1) nonosteopenia-nonOP and 2) osteopenia/OP. Mean femoral neck BMD was 1,024±0,09 g/cm2 and 0,809±0,06 g/cm2, respectively. L1-L4 BMD was 1,260±0,14 g/cm2 for normal BMD group and 1,154±0,16 for osteopenic/OP group. Patients with osteopenia/OP had statistically significant lower LMI (45,57±4,66 cm2/m2 vs. 52,78±10,24 cm2/m2, p=0,01 for low femoral neck BMD; 46,33±6,97 cm2/m2 vs. 52,76±6,74 cm2/m2, p=0,02 for low L1-L4 BMD, respectively). According to the correlation analysis a positive relationship between L1-L4 BMD and LMI was revealed (r=0,373, p<0,05). There was no correlation between femoral neck BMD and LMI (r=0,272, p=0,274).

Conclusion: The decline in BMD in IHD patients is associated with low muscle mass and correlated with severity of BMD dissension in the lumbar spine, but not in the neck of the femur. The obtained results confirm high probability of existence of common pathogenetic links between OP and sarcopenia.

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AB0849

CAUSES OF EARLY MORTALITY IN PATIENTS WITH OSTEOPOROTIC HIP FRACTURES

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Background: Osteoporosis (OP) is a skeletal disorder characterized by compromised bone strength, which predisposes the individual to an

increased risk of fractures of the hip, spine, and other skeletal sites. OP, a major public health problem, is becoming increasingly prevalent with the world population and occupies a leading place in the structure of morbidity and mortality.

Objectives: To study the causes of mortality in patients with hip osteoporotic fractures during 6 months after injury.

Methods: 432 patients with osteoporotic hip fractures were under observation. During the study, mortality rates were assessed both in hospital and during the first 6 months after the fracture. The main causes of mortality were tracked by ICD-10 classes. Information about fractures and their outcomes was obtained from data from the archives of the trauma departments of Kemerovo, city registry offices, telephone interviews of patients and their relatives.

Results: In the first 6 months after injury, 95 out of 432 patients died. Overall mortality was 22.0%. In the group of deceased patients, females prevailed: 73 women (16.5%) and 22 men (5.1%) ($\chi^2 = 4.4$; $p < 0.0001$). It was established that 6 months after a hip fracture in 63 (66.3%) patients, death occurred from cardiovascular system diseases: in men - 13 (59.0%) cases and in women - 50 (68.4%) ($p = 0.9$). Respiratory diseases, as the cause of death, were detected in 18 (18.9%) patients (in men - 5 (22.9%) cases and in women - 13 (17.8%) ($p = 0.1$)), oncological diseases - in 10 (10.5%) men and women: 2 (9.1%) and 8 (10.9%) cases, respectively ($p = 0.5$). Diseases of the digestive system accounted for a small percentage of the total number of deaths (3.2%), without statistically significant differences by gender (1 (4.5%) case for men and 2 (2.9%) cases for women ($p = 0.75$)). Among the dead men, 1 (1.1%) death was caused by an infectious disease.

Conclusion: During all periods of observation, most of the deceased men and women had cardiovascular and respiratory diseases.

REFERENCE

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AB0850

THE LIPID SPECTRUM OF BLOOD, DEPENDING OF BONE MINERAL DENSITY (BMD) IN MEN WITH CORONARY HEART DISEASE (CHD)

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Background The problem of the relationship between osteoporosis in men and risk factors for atherosclerosis is insufficiently studied.

Objectives The aim was to assess the lipid profile of the blood depending on the BMD in men with CHD.

Methods 93 men older than 50 years (mean age – 60.8±6.9 years) with coronary artery disease verified by coronary angiography were examined. The concentration of total cholesterol (OHS), triglycerides (TG), high and low density lipoprotein cholesterol (HDL and LDL cholesterol) in serum was determined by spectrophotometric method. T-criterion of the femoral neck and lumbar spine was used for the assessment of BMD, which was investigated by the method of two-energy absorptiometry (densitometer Excel XR-46, NORLAND, USA). According to the T-criterion, patients were divided into 3 groups: I – 30 patients with osteoporosis (T-criterion ≤-2.5), II – 44 patients with osteopenia (T-criterion from -1 to -2.5) and III – 19 men with normal BMD (T-criterion ≥-1).

Results Most men with established CHD dyslipidemia (95.7% of patients): hypercholesterolemia – 76.3%, elevated level of LDL cholesterol – 81.7% of the patients, hypertriglyceridemia in 49.5%, a decrease in the concentration of HDL cholesterol – 44.1% of cases. In all three groups of patients hypercholesterolemia (80, 75 and 73.7% of patients in groups I, II and III, $p > 0.05$) and increased LDL-C concentration (83.3, 84.1 and 73.7% of men in groups I, II and III, $p > 0.05$) were revealed. Reduction of HDL cholesterol level was determined in 46.7% of cases in group I, 43.2% in group II and 42.1% in group III ($p > 0.05$). Hypertriglyceridemia was registered in 60% of patients with osteoporosis, 43.2% - with osteopenia and 47.4% – with normal BMD ($p > 0.05$). Correlation analysis of the relationship of lipid metabolism with the T-criterion in all patients included in the study did not reveal significant relationships ($p > 0.05$).

Conclusion The results of the study indicate the presence of severe dyslipidemia and the absence of dependence of lipid parameters on the state of BMD in men with CHD.