Objectives The aim of this study was to investigate the relationship between benign joint hypermobility syndrome (BJHS) and FMS.

Methods Thirty-four fibromyalgia patients and 30 healthy control subjects with a mean age of 32.6 ± 7.8 and 38.8 ± 11.1 years respectively, were recruited to the study. Data about demographic and clinical characteristics of the subjects including age, sex, widespread pain, number of specific tender points and associated symptoms were recorded. The joint hypermobility was evaluated depending on the Beighton score and the diagnosis of BJHS was considered according to the revised criteria for the diagnosis of BJHS (Brighton 1998).

Results There were 2 male and 32 female subjects in each group. The mean number of tender points (14.7 ± 1.9 vs 2.5 ± 3.1), associated symptoms (7.1 ± 1.7 vs 2.5 ± 1.6) and Beighton score (3.4 ± 1.3 vs 1.7 ± 1.9) were significantly higher in the FMS group. The BJHS was present in 2 (5.8%) of FMS and 1 (2.9%) of the control subjects.

Conclusion The fibromyalgia patients may be more hypermobile than the control subjects but BJHS is a different clinical entity having no relationship with FMS.

Osteoporosis – Clinical aspects and treatment

AB0170 THE SIMVASTATIN EFFECT ON OSTEOPOROSIS

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Background The Osteoporosis has always been a great problem for the clinicians in every country, since this disorder brings higher morbidity, disability and mortality.

The Statins, lipid lowering drugs, have been recently shown to have positive impact on the osteoporosis, i.e. the bone mineral density, where the "T" score has increased in patients taking these drugs for hiperlipidemia.

Objectives The objective of this research is to investigate the potential efficiency of Simvastatin (Lipex) on BMD score i.e. T score in patients suffering from postmenopausal osteoporosis.

Methods An open randomised Prospective Control Study has been designed.

The patients with the postmenopausal osteoporosis have been selected in one group and they received lipex 10 mg plus 500 Calcium at bed time. The other group of postmenopausal women, served as the control one, was assigned to receive only 500 mg of Calcium at the evening meal. Total number of individuals in each group was thirty three. Laboratory test including the risk factor stratifications were detected on baseline and after 3. The statistical analysis was done between two groups.

Results The results obtained in this study showed the significant improvement in the group of patients receiving lipex and the score is much higher than those taking calcium only.

This BMD result, i.e. T score, has been found to be about 30% higher in simvastatin group.

The positive effect on lipid profile has been gained as well. The well-being improvement has also been notified.

Conclusion The statins, in our research simvastatin (lipex), has been proven in our study to have a very positive effect on the treatment of osteoporosis.

So, beside the primary effect of statins on lowering cholesterol levels, this is the other option and positivity of this drug.

These medications can be added to the list of therapy in osteoporosis.

AB0171 IMPACT OF DEGENERATIVE RADIOLOGICAL ABNORMALITIES AND VERTEBRAL FRACTURES ON THE EVALUATION OF SPINAL BONE DENSITY IN WOMEN WITH OSTEOPOROSIS

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Background Osteophytes and lumbar spine fractures can hinder bone density interpretation.

Objectives The objective of this study was to establish the relationship between densitometric measurements and degenerative radiological findings of the lumbar spine, in women with osteoporosis.

Methods The study consisted of ninety-six postmenopausal women presenting osteoporosis in their lumbar spine bone density, DEXA, LUNAR-DPX. Fractures, osteophytes and aortic calcifications were evaluated by simple x-rays of thoracic and lumbar spine.

Results The X-rays confirmed lumbar fractures in 24.7%, osteophytes in 33.3% and calcifications of the aorta in 30.2%. The mean BMD was 0.783 g/cm^2 and the mean T-score was -3.47 DP. Neither fractures, nor aortic calcifications had significant influence on BMD ($p = 0.36$ e $p = 0.09$ respectively) despite the fractured vertebrae having greater BMD ($p < 0.02$). Patients with lumbar spine osteophytes showed greater BMD ($p = 0.04$). Only osteophytosis was associated to lumbar spine BMD ($p = 0.008$).

Conclusion Osteophytes and lumbar spine fractures can hinder bone density interpretation. Based on these findings, the interpretation of densitometric results should be carried out together with that of a simple lumbar spine X-ray.

REFERENCES

- 1 Heaney RP, Recker RR, Saville PD. Menopausal changes in bone remodeling. *J Lab Clin Med.* 1978;**92**:953-63
- 2 Kleerekoper KS. *Metabolic bone diseases sec IV primer on the metabolic diseases and disorders of mineral metabolism.* 4th edn. Philadelphia: Lippincott Williams & Wilkins, 1999

AB0172 TURNER SYNDROME AND PURE GONADAL DYSGENESIS: A STRONG RISK FACTOR FOR OSTEOPENIA AND OSTEOPOROSIS

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Background During the puberal period, the hormonal production is directly associated to bone mass, and related to the development of the peak of bone mass.

Objectives In order to evaluate the role of Primary Hypoestrogenism as a risk factor for osteopenia, 39 women, aged between 16 and 35 years old, with Pure Gonadal Dysgenesis and Turner

Syndrome, were submitted to bone densitometry (DEXA) of lumbar spine and hip.

Methods Bone densitometry was performed using dual X-ray absorptiometry. T-score values (lumbar spine, femoral neck, Ward triangle and trochanter) were compared to treatment period and to the body mass index.

Results There were no difference between values of bone mineral density (BMD) in Pure Gonadal Dysgenesis and Turner Syndrome. But from all patients, compared to a normal control group, 90% showed a low BMD in lumbar spine (osteoporosis-45% and osteopenia- 45%). The mean value of BMD in L2-L4 was 0,92 g/cm².

Concerning to the femur BMD, 55% of the patients were affected (osteopenia in 50% and osteoporosis in 5%). The mean value of BMD was 0,83 g/cm².

The density of lumbar spine was positively associated to treatment period ($R = 0,57$) and, in the femur, to the body mass index ($R = 0,48$).

Conclusion In conclusion, Primary Hypoestrogenism in the pubertal period must be considered an important risk factor for osteopenia.

REFERENCES

- 1 Heaney RP, Recker RR, Saville PD. Menopausal changes in bone remodeling. *J Lab Clin Med.* 1978;**92**:953-63
- 2 Kleerekoper KS. Metabolic bone diseases sec IV primer on the metabolic diseases and disorders of mineral metabolism. 4th edn. Philadelphia: Lippincott Williams & Wilkins, 1999
- 3 Harper KD, Weber TJ. Secondary osteoporosis. *Diagnostic considerations. Endocrinol Metabol Clin N Am.* 1988;**27**(2):325-47

AB0173 PREVENTION AND TREATMENT OF CORTICOSTEROID-INDUCED OSTEOPOROSIS IN PATIENTS WITH CHRONIC RHEUMATIC DISEASES

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Background Long-term glucocorticoid therapy, a major risk factor for the development of osteoporosis, is often necessary in chronic-rheumatic patients. Generally accepted guidelines for either the prevention of- or the therapy of steroid-induced osteoporosis do not exist to date.

Objectives In an open prospective study, we examined 99 patients with chronic-rheumatic diseases, who were treated with 5 mg or more equivalent dose of prednisolone/day for at least one year. The study goal was to identify factors which influence the manifestation of osteoporosis besides glucocorticoid therapy. Additionally, the therapeutic efficacy of a) prevention with either calcium 500 mg/day and vitamin D 1000U/day or b) treatment with intermittent cyclical etidronate (400 mg/day for 14 days followed by 500 mg calcium/day for 76 days) was examined prospectively for one year.

Methods Clinical (e.g. rate of fractures, pain intensity), chemical (values of bone mineral metabolism) as well as radiographic parameters (bone mineral density/BMD (DEXA) were measured. Therefore, the patients were divided in two groups: patients with osteopenia (group 1) and patients with osteoporosis or osteopenia and an increased fracture risk (group 2). Patients in group 1 were given with the above-mentioned "prevention regimen", and those in group 2, the "treatment regimen".

Results 1. Increasing age was associated with more advanced manifestations of steroid-induced osteoporosis ($p < 0.05$). Male patients had a risk of steroid-induced osteoporosis, however, this was not statistically significant. Size, weight, daily and cumulative glucocorticoid dose and disease activity showed no significant influence on the degree of osteoporosis. 2. Despite the osteoporosis prevention regime, a significant rise of bone mineral metabolism parameters (pyridinoline, deoxypyridinoline, n-terminal telopeptid, ostease, bone specific alkaline phosphatase) was observed. The BMD was not influenced by therapy. 3. During the etidronate therapy, a significant rise ($p < 0.05$) in BMD was measured in the lumbar spine, whereas the femoral neck BMD and bone metabolism parameters remained constant. 4. The intensity of back pain was lowered significantly ($p < 0.05$) in both groups. 5. One year after therapy begin, there were less fractures in group 2 than in group 1.

Conclusion The early treatment with biphosphonates appears effective in long-term glucocorticoid therapy for early osteoporosis and should be recommended.

AB0174 URINARY EXCRETION OF TYPE 1 COLLAGEN CROSSLINKED N-TELOPEPTIDES IN RHEUMATOID ARTHRITIS: CORRELATION WITH BONE MINERAL DENSITY

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Background A immunoassay for measuring urinary excretion of Type 1 collagen crosslinked N-Telopeptides (NTX) has been reported to be specific method for assessing bone resorption.

Objectives The aim of this study was to find out the value of urinary NTX as a marker of bone atrophy in RA.

Methods The study population consisted of 80 female patients with RA according to ARA criteria (1987), 42-74 years of age. We measured bone mineral density (BMD) in the radius and lumbar spine by dual energy X-ray absorptiometry in patients with RA. Using enzyme-linked immunoassays, the concentrations of urinary NTX was estimated in urine samples from RA patients.

A correlation between urinary NTx and BMD of RA patients was analysed.

Results In RA patients there were significant correlations between urinary NTX and BMD.

Conclusion This findings suggest that urinary NTX is the useful marker of bone atrophy in RA.

AB0175 OBESITY IS A RISK FACTOR FOR OSTEOPOROSIS AND VERTEBRAL HYPEROSTOSIS

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Background Connexion of obesity to osteoporosis (bone mineral density, BMD) and hyperostosis of the spine is not yet fully elucidated.

Objectives Their aim was to evaluate the connexion of osteoporosis (BMD of the spine and femur) and hyperostosis to obesity in a case-control study.