Background Insufficiency fractures may occur in patients with long-standing inflammatory joint diseases (IJD). Activity of the disease, immobilisation and prolonged corticosteroid treatment are the main predisposing factors. In most cases the fractures are easily diagnosed, in others the diagnosis is delayed, as they may mimic exacerbation of the underlying disease or other pathological conditions.

Objectives To evaluate the clinical profile of patients with initially misdiagnosed insufficiency fractures and to investigate the causes of the diagnostic delay.

Methods The files of 12 patients with IJD who were referred for presumed exacerbation of the rheumatic disease and were subsequently diagnosed as suffering from insufficiency fractures were reviewed and relevant parameters were analysed.

Results Most of the patients were aged (mean 68.5 years) and were suffering from IJD for long periods of time (mean 16.6 years). All of them received prolonged corticosteroid therapy (mean 9.5 years) in doses up to 15 mg prednisone a day). Five patients had previous insufficiency fractures. The new fractures were located in the distal tibia, femoral neck, head of humerus, lesser trochanter of the femur, sacrum, pubic rami, acetabulum and metatarsus. The initial diagnosis was: acute synovitis (8 patients), trochanteric bursitis (1), radiculopathy (1), tendinitis (1) and avascular necrosis of bone (1). The diagnostic delay was one to eight weeks (mean 2.7). In seven patients the correct diagnosis was reached by initial radiographs and in five by bone scintigraphy and CT. Treatment with bed rest, non weight bearing, NSAID (all patients) and calcitonin (7 cases) resulted in partial (8 patients) or complete recovery (4 patients).

Conclusion Insufficiency fractures can mimic disease activity or other musculoskeletal pathological conditions in patients with IJD. Clinician's awareness may prevent unnecessary investigations and therapy.

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AB0185 EVALUATION OF PHYSICAL CAPACITY AND DISABILITY IN OSTEOPOROTIC WOMEN

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Background The vertebral osteoporotic fractures result in increased kyphosis angle. This alteration could led to disturbance in physical capacity.

Objectives Our objective was to evaluate the physical capacity and disability in a group of osteoporotic patients.

Methods Fifteen women with osteoporosis and vertebral fracture (G1), 20 women with osteoporosis without vertebral fracture (G2) and 20 normal women (G3) were selected. The variables of physical capacity were measured in the belt conveyor. The patients stayed 4 min in standing quietly, 4 min walking at 3 Km/h and 10 min walking at 4 Km/h. It was also applied the questionnaire SF-36.

Results Our results showed that women with osteoporosis and vertebral fracture had increased kyphosis angle (median = 60 degrees) and the G2 was 43.5 degrees and G3 was 37 degrees.

G1 showed oxygen consumption (VO₂ (Kg)), METS and energy expenditure (Kcal/h) in standing quietly bigger than G2 (G1 vs. G2, p = 0.016; p = 0.017 and p = 0.02, respectively). There wasn't significant difference in the energy expenditure during the walking between three groups.

The energy expenditure during walking at 3 Km/h and at 4 Km/h, showed correlation with thoracic kyphosis in G1 (p = 0.01 and p = 0.017, respectively).

It wasn't find difference in SF-36 between three groups.

Conclusion Energy expenditure showed correlation with the angle of thoracic kyphosis. Patients with or without osteoporosis had the same energy expenditure during the walking. The SF-36 score was similar between three groups.

AB0186 CHANGES IN BONE TURNOVER MARKERS AND VITAMIN D RECEPTOR (VDR) GENOTYPE DURING GLUCOCORTICOID THERAPY

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Background Adverse effects of glucocorticoids (GCT) upon the skeleton and markers of bone turnover have been documented but the mechanisms remain unclear.

Objectives To test of early changes in markers of bone turnover for three months of GCT and the influence of VDR.

Methods In fifty three patients (age 41,7 SD 12,6) with inflammatory diseases who received a dose greater than 5 mg of prednisone or equivalent (mean dose 1,9 g) for 3 months, the serum levels of parathyroid hormone (PTHi), 25-dihydroxyvitamin D, (Vit D), osteocalcin, alkaline phosphatase, and urine ratios of calcium/creatinine and deoxypyridinoline/creatinine, were determined baseline and 3 months after GCT. VDR genotypes were determined by PCR to demonstrate the presence (b) or absence (B) of a restriction target for Bsm I, in intron 7.

Results The patients with high baseline levels of PTHi showing lower levels of baseline VitD, (p = 0,003) and 3 months after of GCT the patients with lower levels of PTH have the higher levels of Vit D, (p = 0,001, r = 0,54). There were no significant differences in biochemical markers of bone remodelling between the three genotypes: bb, BB, and Bb VDR before and 3 months after GCT.

Conclusion These preliminary results suggest not effect of VDR genotype in the changes of the biochemical markers of bone remodelling for glucocorticoid therapy.

AB0187 PERCUTANEOUS VERTEBROPLASTY IN RHEUMATOLOGY

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Background

Objectives The percutaneous vertebroplasty (PVP) consists in the percutaneous injection of a biomaterial, plimethylmethacrylate, inside of vertebral body, with the idea of consolidating the vertebral body and to relieve the pain. It is indicated in the treatment

of the persistent pain of vertebral body injury, mainly the aggressive hemangioma, the tumoural processes (myeloma and metastasis) and also in the osteoporotic vertebral collapse. We present our experience in this technique.

Methods We show seven clinical cases, with radiology pictures, about PVP guided by TAC, under local anaesthesia and general sedation, which first indications were to relieve the pain. There are 5 women with an average age of 65 years (40–80) and osteoporotic collapse vertebral. one of them with an hemangioma located in D12 also, a man 72 years old with an hemangioma in L3 and a man 85 years old with a metastasis in L2 secondary to renal tumour.

Results In the seven cases we got to relieve the pain before, the consolidation of the vertebral body, the reduction of the hospitalisation period and saving to have analgesic drugs. In none of them we had complications, except for a case that we caused leakage of cement into adjacent disks, without secondary effects. In the case of the vertebral metastasis the posterior wall was fractured and pushed in the channel, but we didn't cause leakage of cement into the channel.

Conclusion The PVP has been an effective technique in the treatment of the persistent pain in the osteoporotic vertebral collapse, vertebral hemangioma and tumoural process in our patients. It could be an alternative good treatment, and besides it allows an earlier mobilisation, as it prevents the apparition of deformities and possible secundaries complications about this. This is not an expensive procedure, with some possible risk derivated from the technique. Results for long-term follow-up are not yet known and we should make controlled studies to specify which patients could be benefited by technique.

AB0188 BONE MINERAL DENSITY(BMD), SERUM CALCIDIOL AND KNEE OSTEOARTHRITIS

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Background Relationship between knee osteoarthritis (OA) and bone mass has brought a great interest. Serum calcidiol (CS) low level has been associated with a higher incidence and faster progression of OA in elderly women, but this relation has not been defined in young postmenopausal women.

Objectives The aim of the study was to determine the prevalence of knee OA in postmenopausal women and its relationship with bone density and CS levels.

Methods Prospective study realised in 89 women (mean age $\pm$ 5 years: range:47–66), all of them being diagnosed of natural menopause for at least 2 years before they were included in this study.(mean value of 7.9 ± 2). They were recruited at a rheumatology consultancy. CS levels were determined by RIA, along the winter time because of the lest sunny hours during that period. Two critical values were established (<10 , to calculate deficit prevalence. BMD was measured in lumbar spine and hip with DEXA (Hologic QDR 1000). Patients had to fulfil the WHO criteria to be diagnosed of osteoporosis. Knee OA was defined by a grade >2 in Kellgren-Lawrence radiologic scale. Prevalence difference was analysed by contingency tables.

Results A total of 58 women had OP while 31 had normal BMD. SC mean value was 13 ± 7.1 ng/ml and there were no significant differences comparing osteoporotic (OP) women with non-OP women. Knee OA prevalence was 65 (73%). In the OP

group and 80.6 in the non-OP. group. <10 and 20 ng/ml CS deficit prevalence was 38.7% and 61.3% respectively women with knee OA and 39% and 78.3% respectively in women without knee OA.

Conclusion No inverse relationship was found between OP and knee OA in our group. CS deficit was not associated with a higher prevalence of knee OA in young postmenopausal women.

AB0189 BONE TURN-OVER AND THE INFLUENCE OF LOW DOSE GLUCOCORTICOSTEROIDS ON BONE MASS IN RHEUMATOID ARTHRITIS PATIENTS

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Background

Objectives The present study has been undertaken to evaluate bone turn-over in rheumatoid arthritis (RA) patients as well as the influence of low dose glucocorticosteroids (GCS) on bone mass loss.

Methods Ninety patients with establish RA has been investigated. The patients have been divided into two groups: 44 patients treated with GCS (age 52.5 ± 12.4 years, disease duration 122 ± 102 months, total dose of GCS, equivalent to prednisone -7.4 ± 8.3 g) and 46 patients who were not treated with GCS (Age 54.3 ± 9.7 years, disease duration 134 ± 120 month). Fifty patients have been assessed twice (after 12 month). Bone mineral content and bone mineral density have been determined in all patients in distal forearm. Additionally, some biochemical markers of osteoporosis: osteocalcin, alkaline phosphatase-bone formation, carboxyterminal telopeptides of type I collagen (CTX), procollagen type I carboxyterminal propeptide (PICP), deoxypyridynoline and some proinflammatory cytokine: IL-1a, IL-6, TNF-alpha, GM-CSF has been determined. No difference in bone metabolism between RA patients receiving GCS treatment and those treated without GCS was shown.

Results

Conclusion It is concluded that anti-inflammatory effect of GCS may balance the direct effect of GCS on bone mass in RA patients, particularly those with short term treatment.

AB0190 IS BONE MASS AND BONE LOSS RELATED TO LONG-TERM GLUCOCORTICOSTEROIDS IN RHEUMATOID ARTHRITIS AND LUPUS ERYTHEMATOSUS PATIENTS?

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Background

Objectives The purpose of this study was to determine the correlation between chronic active inflammatory process and long-term glucocorticosteroids therapy (GCS) and bone loss in patients (pts) with rheumatoid arthritis (RA) and systemic lupus erythematosus (SLE).

Methods We have studied a sample of 128 women (90 RA pts and 38 SLE pts). All SLE pts and 44 RA pts were on chronic GCS (disease duration and duration of GCS therapy was: 108 ± 82 months and 122 ± 102 months, respectively). Total dose of GCS was 25.3 ± 28.19 g in SLE group and 7.4 ± 8.3 g in RA