and 15-metre tests were significantly worse compared with control, whereas in persons with VF at lumbar spine results of Schober index, lateral trunk lean, hand grip strength and test "stand up from the chair" were worse. In patients with combined VF most of the FT (lateral trunk lean, chest excursion, hand grip strength and 15-metre test) were significantly worse in comparison with control group. The Roland-Morris questionnaire score was significantly higher in women with 2 or more VF compared to controls, unlike the women with 1 VF. We did not found any differences in EQ-5D questionnaire score depending on the number and location of VF.

Conclusions: Indices of pain assessment and physical performance in women of older age groups have own peculiarities depending on the number and location of VF, which should be taken into account while assessing of physical abilities and developing of rehabilitation programs for people with VF.

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THU0496 SKELETAL DEFICIT DUE TO ALTERED BONE QUALITY IN TYPE 1 DIABETES MELLITUS

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Background: Diabetes mellitus (DM) is associated with osteoporosis and increase fracture risk¹. Increase fractures in type 1 DM are linked to decrease bone mineral density (BMD) but BMD alone does not explain the increase fracture rate seen in diabetics. Alterations in bone quality which entails bone microarchitecture, material and composition of bone tissue also contributes to diabetic osteopathy². Chronic state of hyperglycaemia, hypoinsulinemia, inflammation, low levels of insulin growth factor-1 (IGF-1), increased marrow adiposity, altered adipokine and endocrine factors, increased cell death and accumulation of advanced glycation products that compromise matrix properties impairs normal bone metabolism in type 1 DM³. While BMD is detected clinically using a dual-energy X-ray absorptiometry (DEXA) scan, methods to detect changes in bone quality are limited. Estimating bone markers in serum and urine are used in assessing bone quality. An imbalance in bone remodelling as measured by various bone markers is observed in type I DM. But due to discrepancy in results of various studies the exact mechanisms is still elusive.

Objectives: To investigate the underlying mechanism of altered bone quality in type 1 diabetes:

1. By measuring the bone formations and resorption markers.
2. By measuring the advanced glycation end products.
3. By analysing the changes at cellular level in type I diabetes

Methods: Experimental diabetes mellitus was induced in 24 Wistar rats by injecting streptozotocin 60 mg/kg body weight intraperitoneally. Rats were sacrificed at 6th, 8th and 12th week of developing diabetes. Blood and bone specimens were collected. Serum levels of osteocalcin, bone alkaline phosphatase, C-terminal cross-linked telopeptide of type-I collagen (CTX) and pentosidine were measured using ELISA to investigate bone turnover in type I DM. The bone specimens were fixed, processed, sectioned and stained for bone histomorphometry³. Histological analysis was carried out using an 'Olympus Research Inverted Microscope Model IX53' complete with fluorescent attachment equipped with a DP73 camera (Olympus). Statistical analysis was carried out using sigmastat 4.0.

Results: Low levels of osteocalcin and bone alkaline phosphatase and increased levels of pentosidine and CTx levels in serum were found in 6th and 12th week duration of diabetes. Additionally increase number of mast cells p<0.05 were observed in diabetic bones as compared to control specimens

Conclusions: Chronic hyperglycaemic state in type I DM impairs bone remodelling by decreasing bone formation and increasing bone resorption. Increase in advanced glycation end products and mast cells also contribute to diabetic osteopathy.

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THU0497 IS THE SECONDARY OSTEOPOROSIS SOMETHING SECONDARY? EXPERIENCE OF A SECONDARY OSTEOPOROSIS CONSULTATION

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Background: There are many pathologies and drugs that favour the development of Osteoporosis (OP). Although the prevalence of this secondary OP is very high, sometimes assuming a high risk of fracture, it remains an underdiagnosed and undertreated pathology.

Objectives: To assess the characteristics of the patients and bone metabolic pathology referred to a secondary OP consultation.

Methods: In order to optimise the management of bone metabolic pathology associated with Rheumatoid Arthritis (RA) and other inflammatory articular diseases, an inflammatory op consultation was founded in april/2012. Faced with the growing demand from other medical specialities, it became a secondary OP Consultation in 2014, 2 days per week. Sociodemographic, clinical, biochemical and densitometric data were collected.

Results: 418 patients with a mean age of 58.7±11.3 years were evaluated, 78.9% were women, 15.4% premenopausal. 57.4% of patients had densitometric OP and 25.8% Osteopenia. 22.4% had a fragility fracture (60.6% vertebral, 26.5% peripheral, 1.1% hip, 8.5% peripheral/vertebral). Vitamin D level was deficient in 71% of patients.

The most frequent medical specialities who referred patients to our consultation were Rheumatology (18.9% from early RA Unit and 18.2% from Consultation or Rheumatol. Day Hospital), Gynaecology (12.7%) and Neumology (11.2%). But also, there were patient from Oncology, Endocrinology, Nephrology, Haematology and several more medical specialities.

The most frequent underlying diseases were: breast cancer (22.5%, 77.6% in treatment with aromatase inhibitors, early RA (12.4%) and pulmonary disease (11.5%), 41.6% of them were sarcoidosis, other diseases are shown in table 1.

The glucocorticoid-induced OP represented 30.1% of the sample, with a main age of 60.2±11.4 years, being 73% women, 20.6% premenopausal. The most frequent reasons for the use of corticosteroids were: early RA and pulmonary disease (23% respectively), rheumatic diseases (autoimmune dis.(13.5%), established RA (12%), other inflammatory articular disease(7.9%)), multifactorial (8.7%), haematological conditions and kidney transplantation(4% respectively). 42.8% of these patients had densitometric OP and 29.3% osteopenia We found 33 fragility fractures (26.1% of patients), 25 were vertebral (75.7%), peripheral 5 (15.1%) and 3 (9.1%) vertebral and peripheral. In 21.2% of cases, these fractures presented with BMD in the osteopenic range and in 6% with a normal BMD.

DISORDER	N (%)
Breast Cancer	94 (22.5%)
Early RA	52 (12.4%)
Endocrinopathies	31 (7.4%)
Pulmonary dis.	48 (11.5%)
Other inflamm. articular dis.	28 (6.7%)
Autoimmune dis.	27 (6.4%)
Multifactorial	27 (6.4%)
Stablished RA	25 (6%)
Digestive dis.	22 (5.3%)
Haematological condition	17 (4%)
Kidney transpl.	12 (2.9%)
Abnormal bone architecture	6 (1.4%)
Nutritional dis.	5 (1.2%)
Prostate Cancer androgenic supp.	5 (1.2%)
Other (HIV, neurological dis,...)	19 (4.5%)

Conclusions: There are multiple processes that can associate bone metabolic pathology or a secondary OP, with a high prevalence of fragility fracture in these patients, being the rheumatologist a reference for the management of this comorbidity. A monographic consultation of secondary OP has been useful for other medical specialities and to optimise the management of OP associated with inflammatory/autoimmune diseases in Rheumatology

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THU0498

CORE ENDURANCE AND POSTURAL STABILITY IMPAIRMENTS IN OSTEOPOROTIC WOMEN: A CASE-CONTROL STUDY

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Background: Crosstalk between bone and muscle has been focused, lately.¹ Any impairment in bone quality may affect core muscle endurance and whole postural control.^{2,3}

Objectives: This study aimed to compare core muscle endurance and postural stability in women with and without osteoporosis.

Methods: Women with (n: 40, age: 59.16±6.83 years, body mass index (BMI): 31.46±5.44 kg/m²) and without osteoporosis (Controls, n: 36, age: 56.10±7.17 years, BMI: 33.81±5.32 kg/m²) were recruited. Core endurance was assessed with McGill's trunk muscle endurance tests in seconds.⁴ Postural stability were evaluated with Biodex Balance System SD in static-dynamic, eyes-open and closed conditions. Independent sample *t* and Mann Whitney U tests were used for analysis.

Results: The ages and BMI of the groups were similar (*p*>0.05). The following scores were found respectively in osteoporotic women and controls: the endurance of trunk flexor [15.0 (20.0)/17.5 (15.2) s]; back extensor [9.0 (16.0)/12.5 (22.2) s], right lateral [0.0 (7.0)/6.5 (20.0) s] and left lateral muscles [0.0 (8.0)/5.0 (20.0) s], static eyes-open [1.93±0.80/1.44±0.86] and eyes-closed [2.46±1.71/1.68±0.73], dynamic eyes-open [3.08±1.95/2.86±1.39] and eyes-closed [6.31±2.31/5.40±1.24] postural stability. Lateral trunk muscle endurance decreased, static and dynamic eyes-closed instability increased in women with osteoporosis in comparison to women without osteoporosis (*p*<0.05). No differences were found in trunk flexor and back extensor muscle endurance, and static and dynamic eyes open stability scores (*p*>0.05).

Conclusions: Lateral core muscle endurance and static and dynamic eyes-closed postural stability impairments were observed in osteoporotic women. It might be appropriate to be aware of these deficits for prevention programs.

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THU0499

THE EFFECT OF CONCOMITANT TYPE OF VITAMIN D, BIOLOGICAL DMARDS AND DISEASE ACTIVITY FOR THERAPEUTIC EFFECT OF DENOSUMAB IN OSTEOPOROTIC PATIENTS WITH RHEUMATOID ARTHRITIS

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Background: Osteoporosis is one of the major comorbidity in patients with rheumatoid arthritis (RA). There are a lot of evidence that denosumab increase bone mineral density (BMD) in patients with osteoporosis. However, there are few reports investigated the influence of denosumab in patients with RA.

Objectives: We evaluated the BMD change in patients with RA treated denosumab and assessed the effect of various factors, such as the type of vitamin D, biological disease-modifying anti-rheumatic drugs (bDMARDs) use, and disease activity.

Methods: This study included 100 RA patients (96 female, mean age 69.9±9.3 years) treated with denosumab. BMD at the lumbar spine and proximal femoral were evaluated by dual energy X-ray absorptiometry (DXA) at baseline and

1 year after treatment. We evaluated the influence of the type of vitamin D, bDMARDs and disease activity for BMD change.

Results: In all patients, BMD at the lumbar spine, proximal femoral and femoral neck were significantly increased in one years (6.2%: *p*<0.01, 4.0%: *p*<0.01, 2.2%: *p*=0.04, respectively). There were no significant differences in improvement ratio of BMD between 10 patients taking active form vitamin D and 71 patients taking native form vitamin D (7.7 vs 4.4%: *p*=0.55, 4.3 vs 4.0%: *p*=0.83, 1.4 vs 4.2%: *p*=0.52), between 30 patients treated with bDMARDs and 57 patients treated without bDMARDs (6.4 vs 6.2%: *p*=0.3, 2.7 vs 4.5%: *p*=0.95, 1.1 vs 2.5%: *p*=0.2), between 61 patients in remission or low disease activity and 26 patients in moderate or high disease activity (7.2 vs 4.0%: *p*=0.25, 3.3 vs 5.0%: *p*=0.87, 1.6 vs 3.8%: *p*=0.98) (figure 1).

Figure 1. BMD change

Conclusions: Denosumab improved BMD in patients with RA independently regardless of the type of vitamin D, bDMARDs use, disease activity.

Disclosure of Interest: None declared

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THU0500

EFFECTS OF LONG-TERM USE OF UNFRACTIONATED HEPARIN (UFH) OR LOW-MOLECULAR-WEIGHT HEPARIN (LMWH) ON BONE MINERAL DENSITY (BMD) IN PATIENTS WITH NEPHROTIC SYNDROME

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Background: Osteoporosis is a systemic skeletal disease characterised by decreased bone mass and micro- and macroarchitectural tissue alterations, resulting in bone fragility and increased fracture risk. Generalised osteoporosis is a result of different causes and pathogenic mechanisms, which often combine forces to become clinically relevant. Among the different exogenous factors, several drugs have been associated with increased risk of osteoporosis, when used chronically.

Objectives: The aim of this study is to determine the effects of UFH or LMWH therapy of at least 1 year duration on bone mineral density BMD in patients with nephrotic syndrome (NS).

Methods: All patients undergoing native renal biopsy for NS between 2006 and 2017 yielding a diagnosis of primary glomerulonephritis were identified. Baseline serum albumin, proteinuria, estimated glomerular filtration rate, date of biopsy and histological diagnosis were recorded. 465 (238 male, 227 female) patients with nephrotic syndrome received the prophylactic anticoagulation regimen were included. Mean age at biopsy was 43.8±19.2 years. Median follow-up was 5.3±2.4 years. In addition to the prophylactic anticoagulation regimen, patients received treatment for their underlying glomerulopathy. This included optimising blood pressure control, renin-angiotensin system blockade, and prescribing immunosuppressive therapy if indicated. Patients received corticosteroid treatment or with renal failure were excluded from the study. 312 patients (67.1%) received treatment with UFH and 153 - with LMWH at some point in the course of their disease. There was no difference in mean age, sex, or disease duration between both groups. 276 patients were switched from UFH or LMWH to acenocoumarol as a result of protracted hypoalbuminemia (serum albumin <2.0 g/dl) at a median time of 24.3±9.3 weeks' treatment. The anticoagulant control achieved in these patients was good. Bone mineral density (BMD) was measured at the lumbar spine and total hip region with dual x-ray absorptiometry.

Results: Results of Poisson regression analysis showed that LMWH therapy was associated with a lower risk of osteoporosis compared with UFH (0.7 vs 1.1 per 100 person-years). No statistically significant increase in the risk of fractures at 12 months was found for patients (RR = 1, 03; 95% CI: 0.27-3.34). UFH for 24