AB0840 LOCAL FRACTURE LIAISON SERVICE (FLS): CHARACTERISTICS AND FIRST 6 MONTHS OF EVOLUTION IN PATIENTS AFTER HIP FRACTURE: PRELIMINARY RESULTS

J. Rosas¹, C. Cano¹, M. Lorente¹, A. Pons¹, E. Salas¹, T. Linares², M. Hernández³, J.M. Senabre-Gallego¹, M. Marco-Mingot⁴, J.D. Alvarado³, G. Santos-Soler¹, H. Arcos³, A. García³, J.I. Hernández³, J.J. Jiménez³, X. Barber⁵, C. López³, M.D. López³, A.M. Molinos³, B. Statti³, M. Sanchis-Selfa³ on behalf of FLS-HMB and AIRE-MB Groups. ¹Rheumatology Department; ²Traumatology Department; ³Radiology Department; ⁴Laboratory Department, Hospital Marina Baixa, Villajoyosa (Alicante); ⁵CIO, Universidad Miguel Hernández, Elche, Spain

Background: Hip fracture has great impact on morbi-mortality, but a large percentage of patients do not receive treatment.

Objectives: To know the characteristics of patients with hip fracture and its evolution in the first 6 months.

Methods: A prospective, 6-month follow-up study of patients over 60 years old admitted for hip fracture, evaluated in a local FLS. At 3 months after discharge, patients are evaluated for: epidemiological data, fracture income (days of admission, prior and discharge of osteoporosis (OP) drugs, general biochemistry and vitamin D), OP records and possible diseases or osteopenizing drugs, lumbar spine and hip Bone densitometry (BMD) lateral dorsal and lumbar spine radiology and the treatment was decided. The electronic history before and after 6 months of the fracture were reviewed.

Results: Of 152 patients >60 years old, admitted in 2016 due hip fracture, 77 (51%) were during the first 6 months. However, radiology or BMD data were not available for 30 (39%) patients, 16 (21%) for death and 14 (18%) for loss of follow-up. Mean BMI was 26.02±6.2. The mean age of menopause was 49±5 years. 1% of the patients received corticosteroids and 2% of patients an osteopenizing disease (COPD) was found. Mean time of admission was 7.57±2.51 days. In 3% of the patients, before the fracture were receiving OP treatment, which continued to discharge. The mean level of calcium, phosphorus and alkaline phosphatase was normal. However, the mean level of 25OH vitamin D was 13.55±8.63 ng/ml (median: 12 ng/ml, range: <4 to 29 ng/ml).

In 11 of the 27 (41%) patients, in whom radiology was available, the presence of vertebral fracture was demonstrated. The mean T-score for lumbar BMD was 1.8±1.65 DE (32%: the result was normal, 36% osteopenia, 32% OP), femoral neck 2.59±0.77 DE (27%: osteopenia, 77% OP) and in total hip: 2.56±0.86 DE (56%: osteopenia and 44% OP and in Ward of 3.2 DE. 100% of patients evaluated in Rheumatology, initiated treatment for OP: zoledronate: 40%, alendronate: 20%, denosumab: 25%, PTH: 15%.

Conclusions: In patients with hip fracture: 1) Mortality is high (21%), in the first 6 months after fracture. 2) The prevalence of vertebral fracture is 40%. 3) It is accompanied by very low blood levels of vitamin D. 4) In a high percentage the result of BMD is normal or osteopenia. 5) A minimum number of patients receive specific treatment for osteoporosis after fracture. 6) Evaluation in a FLS, ensures the evaluation and treatment of patients.

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AB0841 MEDICAL AND SOCIAL CONSEQUENCES IN HIP FRACTURES DEPENDING ON THE METHOD OF TREATMENT

J.V. Averkieva, T. Raskina. State Medical University Kemerovo, Kemerovo, Russian Federation

Background: medical and social significance of osteoporosis is determined by its consequences - fractures of the vertebrae and the bones of the peripheral skeleton leading to high rates of mortality and disability among older adults. Purpose: to follow basic health and social consequences among the surviving patients with hip fractures aged 50 years or older at 6, 24 months.

Objectives: The study included 432 patients (328 women and 104 men) with radiographic evidence of hip fractures that occurred with minimal trauma.

Methods: Surgical treatment was performed in 171 (40,04%) patients, conservative treatment-261(59.96%).

Results: tracked mortality in hip fractures in 432 patients. It was found that in the first 6 months in the surgical treatment of deaths registered in 11 (6,43%) patients and in 84 (32.18%) - the conservative (p<0.0001). After 12 months after fracture increased mortality rate after the surgical treatment and after conservative (12.9% and 44.81%, respectively, p<0.0001). It was revealed that in the first 6 months in patients with surgical treatments bedridden were 10 (8.0%) men and 78 - a group with conservative treatment (66.67%) (p<0.0001).

Restriction of physical activity within the room was observed in 86 (68.8%) patients with surgery, and in 30 (25.64%) patients - with conservative treatment (p<0.0001). Aids used after surgical treatment of 105 (84.0%) patients after conservative - 34 (29.0%) (p<0.0001). Social impact showed that after 6 months of observation revealed a low proportion of patients with complete recovery of function after a surgery, or after conservative treatment (8.0% and 5.13%, respectively; p=0.5). After 24 months from the time of the fracture using surgical methods bedridden stayed only 1 (0.4%) and 16 patients (13.68%) - with conservative methods ($\chi^2 = 18.3$; p<0.0001). There was a significant decrease in

the number of patients with limited motion activity within the room in the group with surgery and in the group with conservative (10.4% and 26.5%, respectively, p=0.002). When surgical treatment aids continued to use 38.4% (48 patients) under conservative treatment - 58.97% (69 people) ($\chi^2 = 10.24$; p=0.002). Full restoration of function was observed in 72 (57.6%) and 32 (27.35%) patients who received surgical and conservative treatment, respectively ($\chi^2 = 4.62$; p<0.0001).

Conclusions: the obtained during this study data suggest that the immediate and long-term consequences in patients with a fracture of the proximal femur depends on the method of treatment. Surgical treatment is the method of choice for the treatment of patients with this type of fracture.

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AB0842 SARCOPENIA AND OSTEOPOROSIS IN PATIENTS WITH RHEUMATOID ARTHRITIS

K. Aminov. Medical Radiology, Tashkent Institute for Postgraduate Medical Education, Tashkent, Uzbekistan

Background: Musculoskeletal disorders in RA are characterized by lesions of the peripheral joints, the development of local and systemic osteoporosis (OP), as well as a decrease in muscle mass and strength, which are currently being considered within the framework associated with chronic diseases syndrome sarcopenia and cachexia.

Objectives: To determine the prevalence and the relationship between sarcopenia and OP in patients with RA.

Methods: 156 RA patients were examined, of whom 83 postmenopausal women (mean age-61.7 years) and 73 males (mean age, 59 years). The control group consisted of 35 healthy subjects matched for age and sex. Exclusion criteria were: other rheumatic and endocrine diseases, severe somatic diseases, cancers, etc. The states of bone mineral density (BMD) at the lumbar spine (L1-L4) and femoral bone were assessed by dual-energy X-ray absorptiometry (DXA).

Results: Most RA patients (83% women and 63% men) were observed to decrease in BMD of osteopenia/OP level. BMD were negatively correlated with radiographic stage of RA, the DAS 28 and HAQ. IPC also revealed significant correlations with laboratory parameters such as creatinine, total protein, albumin, rheumatoid factor, and 1,25 (OH) D. Investigation of body composition showed a statistically significant reduction ITM RA patients compared to the control group, with no differences between the groups for fat mass. Sarcopenia had 25% of women and 55% men with RA, whereas the control groups, 8.7% and 0%, respectively. The majority of patients of both sexes sarcopenia observed on the background of the normal range of body fat index. Status of TM in patients with RA was statistically significant (p<0,05) associated with femoral BMD and lumbar spine (r=0,3), BMI (r=0,5), force brush compression (r=0,4) RA radiographic stage (r= -0,4), indicators of total protein (r=0,5).

Conclusions: Patients with RA, together with OP/osteopenia have a significant reduction in muscle (lean) mass. Sarcopenia in patients with RA was observed in the majority of men (55%) and 25% of women, significantly more than the control groups. Implementation of the DRA with the program "whole body" will allow time to identify not only bone, but also muscle loss in RA patients, which will help to intensify targeted therapy.

Disclosure of Interest: None declared

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AB0843 RELATIONSHIP BETWEEN THE HISTOLOGICAL CLASSIFICATION OF MARSH AND THE AFFECTATION OF THE BONE METABOLISM IN PATIENTS WITH A RECENT DIAGNOSIS OF CELIAC DISEASE

L. López¹, M. Larrea², A. Erra¹. ¹Rheumatology; ²Gastroenterology, Hospital San Rafael, Barcelona, Spain

Background: Celiac disease is a chronic autoimmune pathology that affects people with genetic predisposition, caused by a permanent intolerance to gluten. Its prevalence has been estimated at around 1% but about 30% of patients are diagnosed after age 60. Its diagnosis is made through clinical data, serological markers, study of duodenal biopsy (BD) and response to the gluten-free diet. The histological study (Marsh classification) remains the gold standard to the diagnosis and allows classification of the disease in 4 types: grade I (less histological lesion) to grade IV (total duodenal mucosal atrophy). In these patients the deficiency of 25-OH vitamin D (vit D) is very frequent and is one of the causes of osteomalacia associated with malabsorption.

Objectives: To evaluate if there is a relation between the histological classification of Marsh and the bone metabolism in patients with a recent diagnosis of celiac disease.

Methods: Prospective study, which included all patients with a recent diagnosis of celiac disease by the Digestive Service during the period 2014-2016. This diagnosis was made through a clinical, serological (anti-transglutaminase IgA, anti-endomysium IgA), histological BD and genetic study (HLA DQ2 and HLA DQ8).

All patients underwent a study of phospho-calcium metabolism including: calcemia, phosphataemia, vit D, PTH, alkaline phosphatases, 24-hour calciuria and a densitometric study (BMD). We present the inclusion data of these patients

Results: 15 patients were included: 11 women and 4 men, with a mean age of 42.2 years (SD $\pm$ 16)

The genetic study was performed in 12 patients: 75% were positive for HLA DQ2 and 25% for HLA DQ8.

The determination of antibodies was positive in 12 patients (73%) and negative in 3 (27%). These 3 were positive for the genetic study (2 HLA DQ2 and 1 HLA DQ8).

The study of BD showed: type I in 4 patients; Type IIIa in 2 patients; Type IIIb in 6 patients; Type IIIc in 3 patients.

BMD showed normal values in 33%, osteopenia in 47% and osteoporosis (OP) in 20% of patients. Thus, 67% had an alteration in BMD at the time of diagnosis.

100% had a Vit D deficit, with a mean value of 14.3 ng/mL (range 4.15–26.8). 75% of them had values below 20 ng/mL (40% less than 10 ng/mL).

40% had secondary hyperparathyroidism (SHP), 83% of which had an alteration in BMD (67% osteopenia and 16% OP). The BD of the patients with SHP and alteration of the BMD showed a histological pattern type Marsh III.

No patient presented an alteration in the values of calcemia, phosphataemia or calciuria.

The relationship between the degree of alteration in BMD and the Marsh classification (table) was studied.

72% of patients with a Marsh III had an alteration in BMD (3 OP and 5 osteopenia vs 3 normal).

DMO	Marsh I	Marsh IIIa	Marsh IIIb	Marsh IIIc	Total
Osteoporosi	0	0	2	1	3
Osteopenia	2	2	1	2	7
Normal	2	0	3	0	5
Total	4	2	6	3	15

Conclusions: Most patients with celiac disease have an alteration in BMD.

In our study, all patients with celiac disease had a Vit D deficiency with no alteration of calcemia or calciuria.

Only in patients with SHP, there is a correlation between alterations in BMD and a higher degree of Marsh.

Most patients with a histological Marsh III have abnormalities in BMD.

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AB0844 FALLS: RISK AND PREVENTION IN PRIVATE RHEUMATOLOGY PRACTICE

L. Poulain¹, V. Strotz², X. Grapton³, P. Lemesle⁴ on behalf of Groupe CREER.

¹Private Rheumatology Practice, la Garenne-Colombes; ²Private Rheumatology Practice, Antony; ³Private Rheumatology Practice, Colombes; ⁴Private Rheumatology Practice, Bois-Colombes, France

Background: Menopausal and osteoporotic women have a higher risk of fractures when falling. Fall prevention is important when taking care of those women.

Objectives: After identifying fall risk factors, defining the % of fractured fallers and the part of osteoporotic women in this population, we want to evaluate the relevance of balance tests and to favor prevention measures for those patients.

Methods: 110 patients, 60 years and older (including 24 controls), having fallen within a year, have seen 28 private practice rheumatologists in the larger Paris area and were subject of our multicentre retrospective study.

Results: Fallers mean age was 75 years.

37% of the fallers within a year fractured after falling. Among them, 95% were post-menopausal fractures versus 64% when including the control group.

Post-fall or post menopausal fracture sites are identical. In order: spine 26%, wrist 18%, ribs 6%.

The circumstances of the falls are: 1) lack of attention 2) slipping 3) stumbling. 61% of the fallers have at least one physical activity, among them 71% a weight-bearing physical activity. The most common physical activity was walking (46%).

Among the fractured, 32% had physical activity, 42% hadn't.

72% of the fallers had at least one fall risk factor: 94% had intrinsic risk factors, 28% extrinsic, and an average of 2 risk factors within the older than 80 years.

Intrinsic factors: 1) osteo-articular 2) eye-vision 3) postural 4) drugs, out of 13 items.

Extrinsic: 1) obstacles 2) footwear out of 7 items.

45% of the fallers within a year had at least one osteoporosis risk factor: 1) low body mass index

2) cortico-steroids 3) early menopause 4) smoking, out of 9 items.

70% of our patients had vitamin D level > 30 ng/l (as recommended)

69% of the patients had recent bone density measures: bone density was lower only at femoral neck of fractured fallers versus non fractured fallers.

The unipodal balance test (positive when standing less than 5 seconds) was relevant in 42% of the patients with or without fractures. Get up and go test was not relevant in our study population.

94% of the rheumatologists participating in the study recommend at least 2 fall prevention measures: 1) correct vitamin D levels 2) physical activity 3) reeducation 4) eye vision correction, out of 12 items.

Conclusions: A significant part of menopausal women with anteriority of falls

and fractures will refracture after falling again. Beside treating osteoporosis, we should identify potential fallers by doing unipodal tests, consider and correct fall risk factors, encourage those patients to keep on physical activity and prescribe reeducation.

Disclosure of Interest: None declared

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AB0845 TECHNETIUM-99 CONJUGATED WITH METHYLENE DIPHOSPHONATE AMELIORATES GLUCOCORTICOID INDUCED OSTEOPOROSIS IN RATS

L. Shi¹, Y. Ning², J. Li¹, F. Hu², X. Zhang², ¹Peking University International Hospital; ²Peking University People's Hospital, Beijing, China

Background: ⁹⁹Tc-MDP has been used in Chinese RA patients for over 15 years and many more studies have focused on this agent in RA. However, the previous studies limited in its effect on the effects of anti-inflammation. As a special form of bisphosphonate, the anti-osteoporotic effect of ⁹⁹Tc-MDP is unclear.

Objectives: To systematically investigate the effect of technetium-99 conjugated with methylene diphosphonate (⁹⁹Tc-MDP), an anti-inflammatory drug effective in treating rheumatoid arthritis (RA), on cortical and cancellous bones in glucocorticoid-induced osteoporotic (GIO) rats, as well as comparing the effect of ⁹⁹Tc-MDP with that of methylene diphosphonate (MDP).

Methods: Forty-eight Sprague-Dawley rats were randomly divided into six groups: blank, negative control, high dose, medium dose, low dose, and positive control groups. After dexamethasone was given to all groups except the blank group to induce osteoporosis, the rats in different groups were treated with saline, MDP, or different doses of

Results: Micro-CT analyses showed that: (1) ⁹⁹Tc-MDP reversed glucocorticoid induced bone microarchitecture destruction by increasing vBMD, BV/TV, Tb.Th, Tb.N and decreasing BS/BV, Tb.Sp and TBPf; (2) effect of ⁹⁹Tc-MDP increased as its dosage increased; and (3) ⁹⁹Tc-MDP could improve cortical bone thickness while MDP failed to do so. Micro-CT spatial structure analysis and histology also yielded consistent results, indicating ⁹⁹Tc-MDP increased trabecular number and connectivity morphologically. Finally, biomechanics revealed ⁹⁹Tc-MDP can enhance the extrinsic stiffness of bone by changing bone geometry.

Conclusions: ⁹⁹Tc-MDP has anti-osteoporotic effect by improving both cancellous and cortical bone, as well as increasing extrinsic bone stiffness. The dual effect of ⁹⁹Tc-MDP, anti-inflammatory and anti-osteoporotic, may suggest a potential clinical application for patients with both GIO and RA.

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AB0846 OSTEOPOROSIS AND ATHEROSCLEROSIS - ALTERNATIVE OR COEXISTENCE

L. Lagvilava. *Rheumatology, Clinic "Consilium Medulla", Tbilisi, Georgia*

Background: The majority of scientific research data promote the idea that OP and Atherosclerosis are inter-connected via OPG system. Scientists have speculation that OPG is the molecular bond between artery hardening and bone resorption. Thus the mechanism explained above makes obvious the co-existence of two: Artery hardening and Osteoporosis.

Objectives: There are number of ongoing Clinical trials on Denosumab therapy in patients with diagnosis of Osteoporosis and Atherosclerosis. The increase of Bone mineral density is associated with less intensive hardening of arteries. This fact inspired us to study bone mass in patients with cardiovascular events and atherosclerosis.

Methods: 1675 men, age range 38–78 years, mean age 59 $\pm$ 4.3 Disease duration 6.4 $\pm$ 1.75 with the diagnosis of Atherosclerosis (revealed on coronarography, assessed lipid profile). At the moment of research Stabile Angina Pectoris (Stable Angina) found in 20% (335); unstable angina non S-T elevation in 48% (804); - Myocardial Infarction 32% (536) Bone Mass was assessed by DXA Absorptiometry technique (Hologic 1000) using T and Z Scores (WHO 1994). As a control group 680 healthy Georgian men 40–70 age range were assessed.

Results: Men having atherosclerosis are rather predisposed to Osteoporosis than health individuals. In Atherosclerosis subgroup normal bone mass was measured in 23% (385.25 patients) of patients; Osteopenia was diagnosed in 19% (315.25 patients), Osteoporosis was detected in 58% (971.5%) according to T-Score SD BMD records are shown in table 1.

Conclusions: 1. According to our research more than 50% of men with verified Atherosclerosis are diagnosed to have Osteoporosis 2. The lowest BMD values were observed in Lumbar Spine L1-L4, indicating that trabecular bone is more