Objective: Fibromyalgia is characterized by chronic widespread musculoskeletal pain that often co-exists with sleep disturbances, fatigue, cognitive dysfunction, stiffness and tenderness to palpation at specific tender points. Selective serotonin reuptake inhibitors (SSRIs) represent a class of commonly used antidepressants. They act by preventing the reuptake of 5-hydroxytryptamine (5-HT) (serotonin) through the inhibition of the 5-HT transporter (5-HTT) which is located on the presynaptic neuron, thereby increasing levels of 5-HT within the synaptic cleft and modulating neurochemical signaling. Usage of SSRIs was significantly associated with lumbar spine BMD reduction, particularly for old people. This study aimed to determine the correlation between SSRIs and serotonin norepinephrine reuptake inhibitors (SNRIs) usage and BMD and trabecular bone score (TBS) changes in primary fibromyalgia patient.

Methods: The present cross-sectional study was conducted on 100 Egyptian patients diagnosed as primary fibromyalgia divided according to drug medication into 2 groups, 50 patients on SSRIs and 50 patients on SNRIs, recruited from Rheumatology, Physical Medicine and Rehabilitation Departments at AlHussein and Sayed Galal, Al-Azhar University Hospitals. In addition to another 50 age matched the control group subdivided into 25 primary fibromyalgia patients not on those drugs and 25 healthy individuals selected by nurses and medical staff, after an informed consent from all subjects from June 2018 to December 2018. An approval was obtained from the medical ethics committee of Al-Azhar University before starting this study. All the patients were informed about the study procedures and a written consent was obtained from all of them. The subjects were categorized into three groups. Group A: 50 1ry fibromyalgia patients on SSRI. Group B: 50 1ry fibromyalgia patients on SNRI. Group C: 50 individuals as a the control group subdivided into: group C-1: 25, 1ry fibromyalgia patients non SRIs-users and group C-2: 25 healthy individuals.

Results: DXA and TBS revealed that usage of SSRIs and SNRI was significantly associated with low BMD (osteopenia and osteoporosis) specially spine BMD reduction with low TBS (partially degraded and degraded) particularly for old people.

Conclusion: The present study provided evidence that usage of SSRIs or SNRI was significantly associated with low BMD (osteopenia and osteoporosis) specially spine BMD reduction with low TBS (partially degraded and degraded) particularly for old people and despite low BMD was found in the SRI users; it also found in 1ry fibromyalgia not on SRIs so 1ry fibromyalgia should also be considered as a contributing factor for low BMD.

P254

THE ROLE OF MACROPHAGES MIGRATION INHIBITORY FACTOR IN ANKYLOSING SPONDYLITIS ACTIVITY

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Objective: Ankylosing spondylitis (AS) has been afflicting humankind as far back as ancient Egypt. The disease is recognised as part of the spondyloarthropathy group of rheumatic diseases. Macrophages migration inhibitory factor (MIF) is a potent proinflammatory cytokine implicated in several diseases. It plays a key role in the development of chronic colitis in mouse models. Elevated serum MIF levels have been reported in AS. Although the role of MIF in bone formation has been a subject of controversy, high levels of MIF transcripts have been found in murine neonatal calvaria, and CD74- knockout mice show enhanced

osteoclastogenesis. The purpose of this study is to determine the role of macrophage migration inhibitory factor in ankylosing spondylitis activity and if has a role in prediction of spinal progression.

Methods: This cross-sectional case-control study were concluded upon 70 randomly selected people from internal medicine department in Kobry El-Kobba Military Hospital and from rheumatology and rehabilitation department in El-Hussein university hospital.

The population study were divided into two groups:

Group A: 50 Patients with Ankylosing Spondylitis (AS) who met the modified New York criteria for AS.

Group B: 20 Healthy controls, not known to be AS, psoriatic, enteropathic, rheumatoid arthritis, SLE, nor any other autoimmune disease.

Results: The mean age of all patients was (38.2±8.4) y. Regarding gender of the patients, the majority (65.7%) of patients were males; while (34.3%) were females. the mean disease duration of AS patients was (15.5±6.7) years; while the mean BASDAI score was (3.5 ±2.17). Regarding smoking, (40%) of AS patients were smokers. We also found that, (18%) od AS patients had HTN, (16%) had DM, (54%) received NSAIDs, (88%) received DMARDs, (14%) received TNFi. Regarding radiological data, (88%) of AS patients had cervical erosion or sclerosis, (46%) had dorsal erosion or sclerosis, (92%) had lumbosacral erosion or sclerosis, with m-SASS score of (11±6.1). Regarding musculoskeletal U/S, (72%) had evidence of inflammation and erosion. highly significant increase in ESR and MIF levels in progressor AS group; compared to nonprogressor AS group; with highly significant statistical difference (p<0.01 respectively), highly significant increase in m-SASS score, dorsal erosion or sclerosis and effusion and inflammation in (U/S), in progressor AS group; compared to nonprogressor AS group; with highly significant statistical difference (p<0.05 respectively). By using ROC-curve analysis, MIF level at a cutoff point (>51) predicted patients with progression, with fair accuracy (74%), sensitivity=53% and specificity=94% (p=0.0056).

Conclusion: MIF appears to have the unique ability to drive both inflammation and new bone formation and could play an important role in the pathogenesis of AS. Serum MIF levels were predictive of progressive spinal damage in AS patients.

P255

SARCOPENIA AND HEALTH-RELATED OUTCOMES: AN UMBRELLA REVIEW OF OBSERVATIONAL STUDIES

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Objective: The clinical relevance of sarcopenia has increasingly been recognized. However, whether it is associated with the development of other medical conditions is still unclear. Therefore, we aimed to capture the scale of outcomes that have been associated with the presence of sarcopenia and systematically assess the quality, strength, and credibility of these associations using an umbrella review methodology.

Methods: A systematic review in several databases was carried out, until 20 February 2019. For each association, random-effects summary effect

size, 95%CIs, heterogeneity (I2), evidence for small-study effect, evidence for excess significance bias, and 95%-prediction intervals were estimated. We used these metrics to categorize the evidence of significant outcomes (p<0.05) from class I (convincing) to class IV (weak), according to pre-established criteria.

Results: From 358 abstracts, 6 meta-analyses with 14 associations were included. Sarcopenia was associated with higher risk of other comorbidities and mortality in 11 of 14 outcomes explored. However, only 3 outcomes (i.e., association between sarcopenia and increased risk of death in community-dwelling older people [odds ratio, OR=3.60; 95%CI 2.96-4.37; n=14,305], disability [OR=3.04; 95%CI 1.80-5.12; n=8569], and falls [OR=1.60; 95%CI 1.31-1.97; n=12,261]) presented a highly suggestive evidence (class II). Other association was classified as having only a weak evidence.

Conclusion: Sarcopenia is associated with several adverse health-related outcomes in older people, and its associations with mortality, disability, and falls are supported by a highly suggestive evidence. The effect of interventions on sarcopenia to improve these outcomes needs to be investigated.

P256

EFFECTS OF TERIPARATIDE OR DENOSUMAB IN ELDERLY WOMEN WITH SEVERE OSTEOPOROSIS AND HIP FRACTURES: A 2-YEAR RETROSPECTIVE, SINGLE CENTRE, OBSERVATIONAL STUDY

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Objective: In patients with severe osteoporosis (OP), the presence of a fracture represents the most important risk factor for subsequent fractures. This risk is high immediately after the event and declines thereafter. In these patients teriparatide (TPTD) and denosumab (DMAB) treatments increase BMD and bone strength through different mechanisms of action. The aim of this retrospective study was to evaluate the effects of TPTD vs. DMAB on BMD, and functional outcomes in patients with severe OP and hip fractures.

Methods: 180 patients with severe OP, mean age 77 y (71-83), referred to our hospital for an intertrochanteric fracture (AO 31 A2.2/31 A2.3) were treated with an intramedullary locking nail. After surgery patients were divided in 3 groups of 60, and treated with TPTD 20 μg sc daily, DMAB 60 mg sc every 6 months, and calcium and vitamin D, respectively. All patients received calcium and vitamin D for 2 y, and were OP treatment naive before the surgery. BMD was measured at lumbar spine, contralateral femoral neck and total hip. Time up and go (TUG), SF-36, and self-reported back pain were measured at 3, 6, 12, and 24 months after treatment.

Results: After 2 y, BMD at lumbar spine and femoral neck were significantly increased more in the TPTD group than in DMAB group. No differences were observed in the total hip. TUG test was significantly better in the TPTD group. Patients treated with TPTD reported less self-reported back pain and SF-36 score compared to patients treated with DMAB.

Conclusion: In this 2-y retrospective observational study, in elderly women with pertrochanteric femoral fractures, TPTD treatment showed better increase of BMD at lumbar spine and femoral neck, and better beneficial effects on early functional recovery parameters compared to DMAB treated patients.

P257

SARCOPENIA: PREVALENCE AND PROGNOSTIC SIGNIFICANCE IN COMMUNITY-DWELLING PATIENTS WITH ACUTE ILLNESS

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Objective: Sarcopenia is characterized by progressive loss of skeletal muscle mass and strength with associated increased risk of adverse outcomes. An acute illness is a stress for an elderly person with sarcopenia, mainly due to the inflammatory and catabolic state, but there is not enough data about its prevalence and prognostic significance in elderly persons hospitalized for acute state. We aimed to evaluated the prevalence and prognostic significance of sarcopenia in elderly patients hospitalized for acute illness.

Methods: This cross-sectional study included 150 community-dwelling elderly patients hospitalized for acute disease. The patients were evaluated for cognitive state, comorbidities, smoking status, fall frequency, anthropometric data, BMI and basic activity daily living (BADL). Sarcopenia was defined as low muscle mass, estimated by low skeletal mass index (SMMI <8.9 kg/m^2 for men and SMMI <6.37 kg/m^2 for women) and poor physical function, estimated using the SARC-F questionnaire (SARC-F ≥4 taken as positive for sarcopenia).

Results: The study included 150 patients. The mean age was 85.7 ±5.4 y. Sarcopenia was prevalent in 74.2% patients aged ≥83 y. Patients with sarcopenia had more concomitant diseases and had significantly longer length of hospitalization. Patients with sarcopenia needed more hours per week of assistance in the basic everyday functions and had more recurrent hospitalizations (24% vs. 15.6% in the patients without sarcopenia).

Conclusion: Our findings demonstrate the importance of screening for sarcopenia among elderly patients with acute disease.

P258

SECONDARY FRACTURE PREVENTION IN HIP FRACTURE PATIENTS: 6-YEAR IMPACT OF A FRACTURE LIAISON SERVICE

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Objective: Osteoporotic hip fractures are associated with increased morbidity, mortality and subsequent fractures. Fracture liaison services (FLS) are recommended as a model of best practice for organizing patient care and preventing subsequent fracture for hip fracture patients. We report the impact of an FLS strategy on the management of patients after hip fracture.

Methods: 1870 patients with hip fragility fracture ≥50 years were identified by the FLS from the orthopedic surgery department in a large Belgian university hospital from 2012-2018.

They were invited through a written and personal invitation at the outpatient department, for a DXA measurement and visit to our FLS. Patients who did not respond were contacted by telephone.