for BMD change at lumbar spine and femoral neck and for modification of CTX and BSAP levels ($\beta = 0.37$, $SE = 2.44$, $p < 0.001$).

Conclusion: TBS variation was independently predicted by phalangeal QUS measurement in Als treated BC women. Phalangeal QUS may represent an alternative tool to evaluate bone health also in this setting of patients.

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AB0824

THE EFFECTS OF CEMENT VOLUME DISTRIBUTION OF PERCUTANEOUS KYPHOPLASTY IN OSTEOPOROTIC VERTEBRAL FRACTURE

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Background: Osteoporotic vertebral compression fractures (OVCF) account for 45% of osteoporotic fractures. It cause severe back pain, unable walk or even stand Percutaneous kyphoplasty (PKP) is commonly used to treat painful OVCF, effective relieve pain and walking ability. But there have been few clinical studies that have specifically explored the relationship of the cement volume distribution rate and clinical outcomes.

Objectives: To access the effect of the cement volume distribution pattern in percutaneous kyphoplasty.

Methods: We retrospectively reviewed 126 cases of osteoporotic compression fractures treated with percutaneous kyphoplasty from Jan 2005 to May 2015. The cement volume distribution (CVD) was measured with X-ray and CT scan. 126 thoracolumbar vertebrae were divided into two groups based on CVD ratio: 51 vertebrae in group A with CVD ratio ≤ 2 ; 15 in group B with CVD ratio > 2 . The relationships of the cement volume distribution and clinical outcomes of pain, vertebral height and kyphotic angle change between the two groups were compared

Results: The mean duration of follow-up was 25 months (range 11~76), and the mean age was 68.2 ± 8.7 years. Correlation of volume of cement distribution measured by CT scan and X-ray is 89.3% ($P < 0.001$). The VAS improvement after kyphoplasty was no statistically significant ($P = 0.651$). Statistically greater height gain was observed in group B at the anterior border (4.42 ± 2.42 VS 1.83 ± 1.5 , $P = 0.035$) and at the center (4.64 ± 1.73 VS 3.01 ± 0.41 , $P = 0.044$). Subsequent fracture was 7 cases in group A and 4 case in group B.

Conclusion: Larger volume of cement distribution, greater correction of kyphosis. The greater distribution of the cement without leakage would be suggested when the limited volume of cement is injected.

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AB0825

IMPACT OF AROMATASE INHIBITOR TREATMENT ON BONE MINERAL DENSITY AND PREVALENT VERTEBRAL FRACTURE

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Background: In recent years, despite the growing incidence of breast cancer, a reduction in mortality has been observed. Adjuvant therapy with aromatase inhibitors (AI) has contributed to a longer disease free survival. However these molecules induce a hyper bone remodeling, modifying the bone architecture and thus increasing the fracture risk. The new guidelines indicate extension of treatment duration up to 10 years. So special precautions must be established in order to avoid bone mineral density (BMD) decrease and to reduce fracture risk.

Objectives: The aim of this study was to evaluate the impact of AI treatment on BMD and to screen vertebral fracture (VF) in post menopausal women with breast cancer.

Methods: A clinical cross sectional study was carried between August 2018 and December 2018, including post-menopausal women with non-metastatic breast cancer. Each woman had an extensive medical history and physical examination. BMD was measured using dual energy X absorptiometry DeXa at femoral neck, total hip and at lumbar spine. We used the WHO criteria for the diagnosis of osteoporosis and osteopenia. Vertebral fractures were screened by performing a vertebral fracture (VFA) image. VF grade 1 were excluded.

Results: Thirty-six post-menopausal women were examined in our rheumatology department. The mean age was 59.5 ± 10.38 years with an average body mass index (BMI) of 30.7 kg/m^2 [$15.81-38.28$]. The average age of menopause was 45.5 ± 5.25 years. The mean length of menopause was 14 years [$2.1-31$]. The mean duration of breast cancer follow-up was 71.7 months. 22 patients underwent chemotherapy and radiotherapy. Mean femoral neck BMD was 0.805 g/cm^3 [$0.647-1.049 \text{ g/cm}^3$] and the vertebral BMD was 1.003 g/cm^3 [$0.739-1.314 \text{ g/cm}^3$]. According to the WHO classification, 12 women (34.6%) had osteoporosis, 15 (42.3%) had osteopenia and 9 (19.2%) had normal BMD. 9 patients showed signs of osteoporosis at femoral neck and 8 had osteoporosis at lumbar spine. 10 subjects (27.8%) had VF identified by VFA, which were grade 2 and 3 in respectively 8 and 2 vertebra. No multiple VF were assessed. No statistically significant difference was found between women with and without VF for age, BMD value, and duration of follow-up or previous fragility fracture. We did not find a significant correlation between treatment length and BMD at either site: femoral neck ($p = 0.42$), total hip ($p = 0.783$) and lumbar spine ($p = 0.357$).

Conclusion: This data has shown that approximately one-third of patients receiving AI treatment have at least one vertebral fracture, and 40% had osteoporosis. Therefore we need to screen bone mineral density and fracture in women under AI therapy.

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AB0826

OSTEODENSITOMETRIC PROFILE DURING JUVENILE CELIAC DISEASE

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Background: Bone mineralization abnormalities are often seen in children with chronic gastrointestinal disease.

Among these pathologies, celiac disease (CD) is the most likely source of abnormalities of bone mineral density. These disorders are of multifactorial origin involving malabsorption, nutritional status, decreased physical activity and chronic inflammation.

Objectives: The purpose of this study was to determine the frequency and factors associated with lower bone mineral density in children with CD.

Methods: This is a retrospective study, over a period of 4 years (from January 2014 to December 2017) including children followed for CD who had a measurement of bone mineral density (BMD) by DEXA. Clinical, anthropometric and densitometry data (BMD at the femoral and vertebral site) were recorded.

Results: Thirty-six children were collected. Among them 29 were girls and 7 were boys. The average age was 11.94 years old. The average size was 137.8 cm. The average weight was 35.3 kg. The average body mass index (BMI) was 17.69 kg/m^2 [$13.05-21.69 \text{ kg/m}^2$]. The average vertebral BMD was 0.891 g/cm^3 . The average z-score was -1.08. BMD was normal in 26 cases. A decrease in bone mineral density

with respect to chronological age was observed in 10 cases. A very significant correlation was observed between BMI and vertebral BMD ($r = 0.75$, $p = 0.000$).

Conclusion: The frequency and severity of the decline in BMD in children with CD requires regular monitoring. It seems to be favored by a low BMI, which is common during CD in relation with the associated malabsorption.

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AB0827 IS DENOSUMAB SAFE IN HIV PATIENTS?

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Background: The survival of the infected patients by the human immunodeficiency virus (HIV) has increased in the last years, increasing the incidental comorbidities, being osteoporosis (OP) one of them, caused by traditional risk factors, by the ones associated to the infection itself and due to the specific treatments used. The denosumab is a human monoclonal antibody that acts against the link of the receptor that activates the nuclear kappa B (RANK-L), and among its secondary effects most commonly described, there are the infections, reason why its indication in HIV patients requires special caution.

Objectives: To analyze efficacy, security and compliance to denosumab in HIV patients.

Methods: Retrospective longitudinal observational study. There were included all HIV patients with OP diagnosed by bone mineral density measured by dual-energy X-ray densitometry (DEXA) or fragility fractures treated with denosumab at Infectious Diseases Unit of our Hospital from August 2014 until December 2018. There were collected clinical data, immunological status, antiretroviral therapies, fragility fractures and duration, adverse events, tolerance and compliance to denosumab treatment.

Results: There were included 14 patients, 8 females and 6 males, with a mean age of 58.35 (50-73) years old, and a mean HIV evolution of 23.78 (± 9.56) years, with a mean denosumab treatment duration of 27.07 (9-58) months. They presented a DEXA mean T-score values of -2.39 for femoral neck and -2.96 for spine. There were collected a patient with multiple vertebral fractures, and an other patient with a single vertebral fractures before started denosumab treatment and 1 distal radius fracture 9 months on denosumab treatment. There were reported adverse events in 5 of the 14 patients: 2 mild infections of the upper respiratory track, 1 injection site rash that lead to the interruption of the treatment, and 2 exitus but none of them with a direct relationship with denosumab treatment: a patient with refractory small cell lung cancer history, deceased of pneumonia, and a 77 year old woman with Alzheimer disease deceased of respiratory infection. Compliance was not met in three patients, 1 because lost of follow-up, 1 caused by bad general compliance and another because indication of odontological surgery, these two last ones are waiting for re-introduction. There have not been collected jaw osteonecrosis neither atypical fractures cases. There have not been collected viral loads or CD4 changes during the follow-up period that involved a switch for the OP treatment. The antiretroviral treatment changes have been caused by intolerances to previous treatments and treatment simplifications in order to improve the compliance, but never because denosumab concomitant therapy.

Conclusion: Denosumab treatment in the HIV patients of our series is well tolerated, has adequate adherence and seems safe although perhaps it should be used with greater caution in patients with comorbidities.

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AB0828 RHEUMATIC PATHOLOGY AFTER SOLID ORGAN TRANSPLANTATION

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Background: Organ transplantation has become as effective therapy for end-stage renal, hepatic, cardiac and pulmonary diseases within the past 2 decades. Osteoporosis, low level of vitamin D and hyperuricemia have emerged as frequent and sometimes devastating complications of organ solid transplantation process.

Objectives: The objective of the study was to detect the prevalence of osteoporosis, low level of vitamin D and hyperuricemia in liver and lung transplant patients.

Methods: We evaluated a cohort of 48 patients who underwent liver and lung transplantation in a single Romanian center between July 2014 and January 2019. 44 pts undergone liver transplantation and 4 undergone lung transplantation. We have measured the level of the 25-hydroxyvitamin D and serum urate before and after the transplantation in all patients.

Results: The average age of the patients was 53.7 ± 10 years (range 32-69) with a sex ratio 1:1. 32 (66%) of patients came from urban area. 8 (16.6%) patients were excluded from this study due to recurrent HCV infection with hepatic failure in the first few months after transplantation. The final group consisted of 40 patients.

The indications of the orthotopic liver transplantation in these patients were: cirrhosis secondary chronic hepatitis B, C, D virus infection in 24 (60%) cases, autoimmune hepatitis in 7 (17.5%) patients, alcoholic liver disease in 2 (5%) patients, hepatocellular carcinoma in 1 (2.5%) patient, polycystic liver disease in 1 (2.5%) patient and nonalcoholic fatty liver disease in 1 (2.5%) patient.

In all 4 cases with lung transplantation, the reason for of the lung transplantation was chronic obstructive pulmonary disease (COPD).

36 (91%) patients were receiving combination immunosuppressant therapy (tacrolimus and) and only 4 (9%) patients were receiving cyclosporine; in this situation, the association between tacrolimus and mycophenolate mofetil was preferred versus cyclosporine because of the negative effect of cyclosporine on the bone.

Post-transplant, hyperurcemia (according to local laboratory reference values >6.5 mg/dL) was presented in 28 (70%) transplant recipients but none of the hyperuricemic patients developed gout. Despite this fact, all of them were treated with allopurinol.

Vitamin D deficiency was reported in 22 (55%) transplant recipients. Also, a DXA scan of the lumbar spine and femoral neck measuring T-score and bone mineral density (BMD) was routinely performed after a mean interval of 4-6 months post-transplant. From this group of patients, 10 (25%) patients had decreased bone mineral density (<2.5 SD) and 8 (20%) of them who complained of back pain in the early posttransplantation period, presented on x-rays vertebral fragility fractures at different sites (most frequently in the thoracic spine). The mean T-score was -2.7 and the mean BMD was 27.4 kg/m^2 .

Conclusion: The standard care of liver and lung transplant recipients must includes, besides other lab tests, a measurement of 25-hydroxyvitamin D and serum urate. For patients with low levels of 25-hydroxyvitamin D, evaluation for osteoporosis (risk factors, x-ray, DXA scan) should be mandatory.

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