AB0613

FREQUENCY AND RISK OF FRAGILITY FRACTURES IN PATIENTS WITH SYSTEMIC SCLEROSIS

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Background:

Objectives: To assess the frequency of fragility fractures and the 10-year risk of major osteoporotic fractures using the fracture risk assessment tool (FRAX) tool in patients with systemic sclerosis (SSc).

Methods: The study included 136 patients with SSc who met the ACR/EULAR 2013 criteria: 110 (80.9%) postmenopausal women and 26 (19.1%) men over 50 years of age, mean age 59.3±7.5 years. The duration of the disease was 10.0 [6.0; 15.0] years in women and 6.0 [3.5; 9.0] years in men. A questionnaire was conducted and the risk of major osteoporotic fractures was calculated according to FRAX tool, as a result of which patients were divided into groups of low, moderate or high risk. Individuals at moderate risk underwent dual-energy X-ray absorptiometry (DXA) of the proximal femur, followed by a 10-year probability of major osteoporotic fractures recalculation with the inclusion of the femoral neck T-score. According to the obtained fracture risk assessment tool value, patients were assigned as having a low, high or very high risk.

Results: Fragility fractures of various localization were found in 50 (36.7%) people: 41 (37.3%) women and 9 (34.6%) men. Vertebral and peripheral bone fractures occurred with the same frequency (19.8%) without significant differences depending on the patient's gender. Only 1 (3.8%) male had a history of proximal femoral fracture. Fractures of both the vertebra and the peripheral bone occurred in 4 (2.9%) people: 3 (2.7%) women and 1 (3.8%) man.

9 (8.2%) women and 16 (61.5%) men had a low risk of major osteoporotic fractures according to FRAX, 60 (54.5%) and 10 (38.5%) - a moderate risk, respectively, while 41 (37.3%) women were at high risk. Among 86 patients without a history of low-energy fractures (69 women and 17 men), 8 (11.6%) women and 16 (94.1%) men were at low risk of major osteoporotic fractures, and 57 (82.6%) and 1 (5.9%), respectively, were at moderate risk. Only 4 (5.8%) women were assigned to the high-risk group. After recalculation of the fracture risk assessment tool with inclusion of the femoral neck T-score in persons with moderate risk without a history of fragility fractures, 9 (13.0%) women and 1 (5.9%) man were found to be at high risk, 14 (20.3%) women - at very high risk and 34 (49.3%) women - at low risk.

Among moderate-risk patients with prior fractures after FRAX recalculation 3 (7.3%) women and 7 (77.8%) men became at low risk, 1 (11.1%) male - at high and 1 (11.1%) male - at very high risk. Thus, 55 (50.0%) women and 1 (3.8%) man were at very high, 12 (10.9%) and 2 (7.7%), respectively, - at high, and 43 (39.1%) and 23 (88.5%), respectively, - at low risk of major osteoporotic fractures.

Conclusion: In the examined cohort of patients with SSc, the frequency of fragility fractures was 37.3% in women and 34.6% in men. A high and very high risk of major osteoporotic fractures was found in 60.9% of women and 11.5% of men. 3 (2.7%) women and 6 (23.1%) men with a history of previous fractures were in the low-risk group by FRAX, but they need to consider the appointment of anti-osteoporotic therapy as for patients at high and very high risk.

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AB0614

DENSITOMETRIC VERTEBRAL FRACTURE ASSESSMENT: FACTORS LIMITING GOOD VISIBILITY OF THE VERTEBRA

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Background: The radiograph of the spine is the gold standard for identifying vertebral fractures (VF). Vertebral Fracture Assessment (VFA) is a new feature available on modern densitometers that could assess VF. This technique offers the advantage of low irradiation over standard radiography but at the cost of lower image quality.

Objectives: The aim of this study was to assess factors associated with good vertebra visibility when using VFA.

Methods: This is a cross-sectional study including patients referred by their physicians for bone mineral density (BMD) measurement. Anthropometric data were recorded. BMD was measured using standard methods over the lumbar spine L1-L4, the total proximal femur. Results were expressed as T-scores using Dual-energy X-ray absorptiometry (DEXA). The screening for VF was performed by VFA. A professional operator analyses VFA scans and assessed the good visibility of the vertebra.

Results: The study included 100 patients. The mean age was 61.7 ±12.6 years [18-83]. The average body mass index (BMI) was 28.9 ± 24.2 kg/m² [14.2-45.3].

The mean T-score at the vertebral site was -1.5 DS [-4.9-1.5] with a mean mass of 0.95g/cm² [0.58-1.371]. Osteoporosis was found in 27.7 % of patients. A vertebral fracture was diagnosed in 25% of cases. The visualization of the vertebra was impaired in the upper thoracic region in 60% of cases. Poor visibility was observed in 19% of cases in the mid-thoracic spine and only in 2% of cases in the lumbar spine. No statistically significant correlation was found between good vertebral visibility and age (p=0.2), weight (p=0.5), or BMI (p=0.7). However, good visibility of the vertebra was associated with a lower height (1.7 m vs 1.5 m, p=0.03). A better vertebrae visualization was correlated neither to the BMD of the right hip (0.84 vs 0.87, p=0.4) nor to the left hip (0.85 vs 0.89, p= 0.3). Similarly, the absence of vertebral osteoporosis was not correlated with a better vertebral visualization (p=0.6).

Conclusion: Visibility of the vertebra on VFA does not appear to be altered by the BMD and vertebral osteoporosis, suggesting safe use in the elderly. However, precautions may be taken when interpreting VFA in patients with high heights.

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AB0615

ASSESSMENT OF THE IMPACT OF OBESITY ON BONE LOSS

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Background: Most of the available evidence supports a lower risk of vertebral fracture in obese adults. This belief was partially suggested by the positive correlation between bone mineral density (BMD) and body mass index (BMI).

Objectives: We aimed to assess the association of BMI with BMD and to explore their relation with age and gender.

Methods: This is a cross-sectional study including Tunisian patients referred for an assessment of BMD through dual-energy X-ray absorptiometry (DXA). BMD was measured using standard methods over the lumbar spine L1-L4, the total proximal femur. The results were expressed as T-scores according to the World Health Organization definition. Patients were sub-grouped according to age (≤50 and >50 years). Association between BMD and age as well as BMI was also assessed (G1: obese patients and G2: non-obese patients). The level of significance was fixed for p<0.05

Results: The study included 100 patients with a female predominance (sex ratio =10.1). The mean age for women was 61.9 ±13 [18-83] years and the mean age for men was 59.7± 7.5 [47-72] years. The mean body mass index was 29.1± 5 kg/m² [15-45] for women and 27.6 ±3.6 kg/m² [22.8-32.9] for men. Forty percent of all patients were obese with a mean BMI of 32.9 kg/m² ± 4.3. Osteopenia was diagnosed in half of the men (55.5%) and most of the women (70%). Twenty-nine percent of patients suffered from osteoporosis. BMD of the spine was similar between men and women (p=0.53). Men had higher BMD of the hip than women (p=0.038). The mainstream of the subjects >50 years had more vertebral fractures, suffered more from osteoporosis and had a higher BMI than those < 50 years (95% vs 5%; p=0.04), (92.3% vs 77 %; p=0.03) and (82.5% vs 17.5%; p=0.05) respectively. There was no correlation between BMD of the spine and higher BMI (0.94 in G1 vs 0.98 in G2, p=0.3). Similarly, there was no correlation between BMD of the hip and higher BMI (0.9 in G1 vs 0.84 in G2, p=0.2). Moreover, Obese patients had less a vertebral fracture but with no statistically significant correlation (21% in G1 vs 25% in G2; p=0.2).

Conclusion: Our study showed that obesity was frequent among Tunisian patients but was not associated with a higher BMD. Older age was directly associated with a lower BMD and higher risk for vertebral fracture.

Disclosure of Interests: None declared.

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AB0616

RISK FACTORS FOR PREVALENT VERTEBRAL FRAGILITY FRACTURES - STUDY IN A LONDON URBAN BOROUGH

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Background: Vertebral fragility fractures (VFFs) are commonly underdiagnosed, often resulting in chronic pain and reduced quality of life. It is particularly important to identify and manage VFFs, as they are important predictors of future VFFs and non-VFFs. Patients with VFFs often have multiple risk factors, which are important to identify to formulate a tailored and appropriate management plan. There is a paucity of studies that have investigated risk factors specifically for VFFs.

Objectives: To identify the prevalence of osteoporosis risk factors in patients with VFFs.