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AB0619

CLINICAL RISK FACTORS, BONE DENSITY AND FALL'S HISTORY AND FRACTURES RELATION: STUDY BY HOSPITAL SURVEY ABOUT 448 CASES

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Background: Osteoporosis is a disease that affects bone mineral density (BMD) and bone microarchitecture at the origin of an increased risk of fracture. The reduction in bone density assessed by dual-energy X ray absorptiometry (DXA) and fall history represent the first two risk factors of non-vertebral fracture after menopause. Given the high prevalence of osteoporosis among fallers subjects with common risk factors, causing a surisk of fracture. Several publications including the osteoporosis recommendations indicate DXA in women experienced falls in search of bone fragility may justify a treatment for osteoporosis, especially as the FRAX tool does not include at present the fall of history, an important parameter in the assessment of fracture risk.

Objectives: Because of the low attention given to the evaluation of falls'risk, the main objective of the study was to determine the prevalence and the relationship between the past history of fall, reduction of bone mineral density and prevalent fracture.

Methods: Transversal and descriptive epidemiological cohort study conducted for 24 months in 448 patients referred by physicians regularly use prescription of BMD. The realization of this exploration by the same DXA-Hologic in the rheumatology department at Ibn Rochd University Hospital was the criterion for entry into the study. All patients were interviewed on the same day on the risk factors for osteoporosis and fractures justifying the prescription of a BMD.

Results: Data included 413 women and 35 men. Most women were postmenopausal (89.6%). The average age was 59 years ($\sigma = 13.40$), 33.7% were ≥ 65 years. The mean BMI was at 27.50 ($\sigma = 5.2$). 18.5% of patients had at least a history of falls in the previous 12 months and 22.5% a history of fracture after a low-energy trauma. 42.9% were osteoporotic and 57.1% had osteopenia in at least one of these sites: lumbar spine, femoral neck, total hip. We did not find significant association between BMD osteoporosis and fall history ($p = 0.916$). Thus, cases of osteoporosis fractures were not statistically associated with a fall ($p = 0.170$). Also, the falls were occurring than 18.4% of osteopenic patients ($p = 0.220$). However, in our study, the fall was an independent risk factor for fracture ($p = 0.003$) and osteopenic fractures were significantly higher among fallers ($p = 0.009$ and 0.006 respectively, a drop of history and at least one past fall history).

Conclusion: The fall history is a independent risk factor for fracture. This risk is particularly important in case of fragility bone densitometry. The clinical history and fall risk factors should be taken into consideration in the assessment of fracture risk and in the anti-ostoporotique treatment strategy. Thus, the fall seems to be a legitimate indication for DXA and as a parameter to be integrated into the assessment of fracture risk by the FRAX score.

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Table 1. Multivariate Logistic Regression Results: Adjustment for predictors factors of falls

Variables	OR (95% IC)	p-value
Age ≥ 65 ans	0,986 (0,412-2,357)	0,974
Past history of fracture	4,271 (1,719-10,611)	0,02
Walking aid	11,214 (2,815-44,670)	0,01
Vision disturbances	8,587 (3,540-20,829)	<0,001
Rhumatoid arthritis	8,047 (2,218-29,192)	0,02
Diabete	3,194 (1,217-8,382)	0,018
Corticosteroid ≥ 3 mois	0,603 (0,156-2,331)	0,463
Smoking	0,241 (0,013-4,518)	0,341
Ostéopenia ($-1 \leq T\text{-score} < -2,5$)	2,204 (0,875-5,552)	0,094

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AB0620

MODIFICATION OF THE DECISION OF THE ANTI-OSTEOPOROSIS TREATMENT AFTER PERFORMING THE VFA

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Background: Spinal fractures are the most common of all osteoporotic fractures. Its diagnosis is essential, because the discovery of a vertebral fracture testifies the gravity of osteoporosis and modifies the therapeutic intervention threshold by justifying a specific anti-osteoporosis treatment. The evolution of densitometers now makes it possible to take a true X-ray image using software called "Vertebral Fracture Assessment" or VFA.

Objectives: To assess the impact of VFA results on therapeutic decision-making after measuring bone mineral density.

Methods: We conducted a retrospective and descriptive study in the rheumatology department.

We included all patient followed at the consultation for bone pathologies, in whom a measurement of bone mineral density and a supplementation of VFA were performed. Clinical data, BMD, VFA and the therapeutic decision by anti-osteoporosis treatment before and after VFA were collected.

Results: Sixty-one patients were included. The mean age was 62.8 years [38 - 85 years]. Sex ratio (female / male) was 19.3. At BMD level, patients with osteoporosis and osteopenia were 49% and 51% respectively. VFA objectified at least one spinal fracture in 64% of patients. Prior to VFA, anti-osteoporosis therapy was indicated to 49% of patients, based on clinical data and BMD. After performing VFA, the prescription of anti-osteoporosis therapy was indicated to 80% of patients.

Conclusion: Patients who had no indication for osteoporosis treatment based on BMD data, VFA was able to modify their therapeutic treatment by detecting vertebral fractures in patients who had back pain.

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AB0621

THE MAIN CAUSES OF MORTALITY IN PATIENTS WITH OSTEOPOROTIC HIP FRACTURES

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Background: Increasing life expectancy is one of the main achievements of modern medicine. However, longevity is inevitably associated with the growth of so-called "age-associated diseases," among which osteoporosis occupies an important place.

Objectives: To study the causes of mortality in patients with hip osteoporotic fractures during 12 months after injury.

Methods: Traced the causes of mortality 432 patients with osteoporotic hip fractures were under observation: 328 women and 104 men. The mean age of women was 75.4 ± 9.27 years, the mean age of men was 71.5 ± 10.39 years.

Results: This study traced the causes of deaths by the main classes of ICD-10. It was found that 6 months after a hip fracture in 63 (66.3%) patients, death occurred from diseases of the circulatory system: in men - 13 (59.0%) cases and in women - 50 (68.4%) ($p = 0.9$). Respiratory diseases, as a cause of death, were identified in 18 (18.9%) patients (in men - 5 (22.9%) cases and in women - 13 (17.8%) ($p = 0.1$)), neoplasms - in 10 (10.5%) men and women: 2 (9.1%) and 8 (10.9%) cases, respectively ($p = 0.5$). Diseases of the digestive system accounted for a small percentage of the total number of deaths (3.2%), without statistically significant differences by gender (in men - 1 (4.5%) case and in women - 2 (2.9%) cases ($p = 0.75$)). Among the dead men, 1 (1.1%) death from an infectious disease was registered. 12 months after the fracture, most of the deaths in both men and women were due to diseases of the circulatory system. The total number of deaths was 93 (67.8%): in men - 22 (66.0%) cases, in women - 71 (68.3%) ($p = 0.65$). Respiratory diseases caused death in 23 (16.8%) patients: in men - 5 (15.1%) cases and in women - 18 (17.3%) ($p = 0.31$). There is an increase in the number of deaths from neoplasms to 15 (10.9%) cases without statistically significant differences by gender: in men - 3 (9.09%) cases and in women - 12 (11.5%) ($p = 0.45$). Diseases of the digestive system, as a cause of death, were identified in 5 (3.6%) men and women (2 (6.06%) and 3 (2.9%) cases, respectively ($p = 0.1$)). No new cases of deaths from infectious diseases were registered.

Conclusion: Most of the deceased men and women had cardiovascular and respiratory diseases. There were no statistically significant differences registered in the structure of mortality by gender for all classes of diseases.

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AB0622

WHEN OSTEOPOROSIS, COELIAC DISEASE AND MULTIPLE MYELOMA CO-EXIST

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Background: Secondary causes of bone loss are sometimes overlooked in patients who are diagnosed as having osteoporosis. This is especially true if more than one risk factor for secondary osteoporosis is present, with clinicians focusing on the more common cause. Here we present a case of secondary osteoporosis caused by coeliac disease and multiple myeloma.

Objectives: Secondary osteoporosis should be suspected in patients with very low bone mineral density and those with no obvious risk factors. Comprehensive examination and investigations must be done to look for all secondary causes because sometimes, as seen in our patient, you may find more than one.

Methods: A 74 year old gentleman presented to the rheumatology clinic for assessment of osteoporosis. He had been recently diagnosed with coeliac disease. DXA scan showed a T score of -3.5 at the lumbar spine, -2.5 at the left hip and a low Z score of -2.9. He had not sustained any fractures in the past. There was no history of corticosteroid exposure and no parental history of hip fracture or osteoporosis. He drank up to 21 units of alcohol a week and was an ex-smoker. He was managing a gluten-free diet. His testosterone and vitamin D levels were normal. Serum electrophoresis, done as part of the osteoporosis workup, revealed a diagnosis of multiple myeloma. He then developed back pain and given his new diagnosis of myeloma, prompt investigations were carried out. A skeletal survey showed T7 fracture and a subsequent MRI scan showed impending cord compression, which were treated successfully with radiotherapy. He underwent chemotherapy and autologous stem cell transplantation for his myeloma.

He recently had an OGD following one week post gluten rechallenge after an established gluten free diet. His biopsy shows no evidence of coeliac disease. Interestingly, the stem cell transplantation did not only treat our patient's myeloma, but also his coeliac disease.

Results: Z-score is a useful indicator of possible secondary osteoporosis. A score of -2.0 or less is below the expected range for age and should prompt careful scrutiny for an underlying cause.

Coeliac disease is a gluten-sensitive enteropathy and a known cause for secondary osteoporosis. It likely causes bone loss by secondary hyperparathyroidism from vitamin D deficiency. Multiple myeloma is a disease of aging adults resulting in osteolytic and/or osteoporotic bone disease through increased bone resorption and decreased bone formation from pro-inflammatory cytokines. While coeliac disease patients are at increased risk of all malignancies, association with multiple myeloma is rare, but has been described.

Conclusion: This case highlights the importance of evaluating for secondary causes for low bone mineral density and often, one may find more than one contributory factor. It also shows that a Z-score of -2.0 could help identify patients with a secondary cause for osteoporosis and those who would especially benefit from a thorough history and examination.

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AB0623

OSTEOPOROSIS: SCREENING, DIAGNOSIS AND TREATMENT IN TUNISIA: INVENTORY

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Background: Osteoporosis has become a public health issue due to the increasing number of complications in osteoporotic women in terms of morbidity and mortality. His screening has improved since the refund of the bone densitometry, but prevention, diagnosis and treatment of this pathology remain suboptimal.

Objectives: a qualitative study to understand barriers towards care initiation and levers to improve awareness and management of osteoporosis among general and specialist practitioners.

Methods: The survey was conducted among a random sample of general practitioners and specialists. An anonymous questionnaire was used for this study carried out by mail. It contained 22 questions concerning the socio-demographic characteristics of each practitioner and his patient group, general questions on osteoporosis and questions on the practice in terms of management. The survey lasted about six weeks.

Results: 102 doctors have answered. 55.3% were experienced doctors and 44.7% were young doctors in training. They were 43 general practitioners, 21 rheumatologists, 15 orthopedists, 13 gynecologists and 10 endocrinologists. The sector of activity in urban and periurban areas was noted in 90% of cases and 5% in rural. 43% exercised a liberal activity and 57% had a hospital-university activity. 60% of participants believed that osteoporosis is a condition associated with morbi-mortality and 85% confirmed that it is an underestimated disease. In 72% of physicians, women over 50 accounted for 25 to 75% of their female patient base. 86% of doctors looked for recent information on osteoporosis from medical journals and recommendations and 11% from representatives of pharmaceutical companies. In a recently menopausal patient, 68% of physicians often looked for risk factors for osteoporosis which were: Age in 90% of cases, early menopause in 84%, presence of a family or personal history of fracture in 65%, a history of prolonged systemic corticosteroid therapy in 46% of cases; endocrine pathologies in 29%; Chronic inflammatory rheumatism was investigated in 19% of cases, Smoking and alcoholism were investigated in 11% of cases. The diagnosis of osteoporosis was mentioned in case of bone transparency on standard X-rays in 76% of cases, a low-energy trauma fracture in 43.5% and the presence of a risk factor in 35% of cases. 98% of responding physicians rely on bone densitometry to make the diagnosis of osteoporosis. 41.2% of doctors said they were looking for a secondary cause of osteoporosis or a differential diagnosis by requesting a biology. This assessment included: blood phosphocalcic assessment in 88%, vitamin D in 90%, thyroid assessment in 35%, protein electrophoresis in 38%, inflammatory biologic markers in 20% and immunologic factors were requested in 6% of cases. The choice of anti-osteoporosis treatment depended on the bone densitometry result in 88% of cases and the presence of a personal history of fractures in 36.5% of cases. Bisphosphonates were at the top of the therapeutic arsenal of general practitioners and specialists (99.8%). 100% of the participants knew the reimbursement criteria for anti-osteoporosis treatment by the national health insurance fund and take them into account when prescribing in 91% of cases. The duration of a therapeutic sequence varied from one practitioner to another: 13% of the doctors did not specify it, 45% treated their patients for five years and 42% kept the treatment for 3 years. When a fracture occurred during treatment, 64% of general practitioners had recourse to a rheumatologist, the rest carried out a densitometric reassessment.

Conclusion: The deficits found in the knowledge of both the general practitioners and among others specialists, should be addressed by providing updated information and better awareness of health professionals in order to improve osteoporosis prevention and treatment.

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AB0624

COMPARISON OF DIFFERENT FRAX SCORES WITHOUT BONE MINERAL DENSITY FOR THE EVALUATION OF RISK FRACTURE IN MEXICAN PATIENTS WITH RHEUMATIC DISEASES

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Background: Osteoporosis (OP) is characterized by compromised bone strength and deterioration of quality, often leading to fragility fractures(1). Dual-energy x-ray absorptiometry (DXA) is the recommended test for OP screening(1). However, there are limitations to perform DXA on all patients, and the clinicians use screening tools to identify those patients with higher risk, like the FRAX score(2).