**Infection Risk Among Rheumatic Patients Receiving Denosumab Therapy: Single Centre Experience**

K L. Ng1, M. Mohd Zain1, I. S. Lau1. 1Selangor Hospital, Rheumatology, Batu Caves, Malaysia

**Background:** Osteoporosis (OS) is common in rheumatic diseases (RMD). OS fracture leads to morbidity and premature mortality. The treatment for OS is well established with good long term safety profile. Oral bisphosphonate (BIS) is recommended as initial treatment option for both postmenopausal and glucocorticoid induced OS. Denosumab (DSB) is the noninferior alternative option. Despite its efficacy, DSB was linked with elevated infection risk in non RMD. Yet, data in RMD is lacking.

**Objectives:** To determine the infection risk and associated factors in RMD patients receiving DSB.

**Methods:** This is retrospective cohort study. Data was extracted from medical database (between Jan 2010 & Dec 2018) at Selangor Hospital, Malaysia. Descriptive statistical analysis, logistic regression (LR) and cox (proportional hazard) regression [CPHR] were the analysis methods.

**Results:** 50 cases were analysed. 96% were female. The median age was 72.5 ± 12.7 years. The primary rheumatological disorders were rheumatoid arthritis (48%), OS (24%) and systemic lupus erythematosus (10%). 92% had ≥1 comorbidity including metabolic/cardiovascular diseases (74%), chronic lung diseases (CLD) (40%) and diabetes mellitus (DM) (22%). 54% had disease modifying anti rheumatic drug (DMARD) therapy; majority (59.2%) received single conventional synthetic DMARD. Only 74% received combination biologic DMARD therapy. 26% had received prednisolone therapy, with dose <7.5mg OD in 78.6%.

The median age at DSB initiation was 71 ± 12.4 years. 38% had fracture history and 28% had received prednisolone therapy, with dose < 7.5mg OD in 78.6%. The mean DBS treatment duration to first infection was 15.46 ± 11.9 months. Univariate LR showed infection risk and hospitalisation were higher with longer DSB treatment duration. OR 1.062 (95% CI: 1.010 - 1.117, p = 0.018) & OR 1.057 (95% CI: 1.003 - 1.114, p = 0.037), respectively. These risks were lower in absence of steroid use, OR 0.2 (95% CI: 0.051 - 0.784, p = 0.021) and OR 0.215 (95% CI: 0.052 - 0.889, p = 0.034), respectively. Additionally, infection risk was lower in absence of CLD, OR 0.188 (95% CI: 0.048 - 0.742, p = 0.017) and hospitalisation was lower without concomitant DM, OR 0.050 (95% CI: 0.050 — 0.980, p = 0.043). Yet, multivariate LR did not infer the above predictions, after adjustment made for age, gender, rheumatological diseases, comorbidity, DMARD therapy and steroid dosing. For severe infection and case fatality, no predictive factors were identified.

CPHR showed patients without steroid use had lower fatality risk, HR 0.077 (95% CI: 0.007 - 0.864, p = 0.038). With confounding factors (age, gender, previous infection and comorbidity), the observed difference was insignificant.

**Conclusion:** Risk of infection and hospitalisation could be higher in rheumatic patients receiving longer DSB treatment duration. Concomitant comorbidities (CLD and DM) might increase the risk of infection and/or hospitalisation.

**REFERENCES:**


**Disclosure of Interests:** None declared.

**DOI:** 10.1136/annrheumdis-2021-eular.2964
**Objectives:** To compare hip fracture risk and major osteoporotic fractures risk using the FRAX® tool, with and without the consideration of asymptomatic VF on VFA. To evaluate the impact of FRAX® calculation and asymptomatic VF identified on VFA on osteoporosis management.

**Methods:** We conducted a cross-sectional study over a period of 5 months at the rheumatology department. The study included post-menopausal women without a previous diagnosis of VF referred for BMD (Bone mineral density) measurement. Each participant had a BMD assessment and a VFA scan to detect VF. The FRAX® was calculated using femoral neck BMD initially without then with consideration of VF. The change of therapeutic decision was assessed after taking into consideration FRAX® and the VFA results.

**Results:** The study included 210 post-menopausal women with a mean age of 61.5±8.5 years. The mean BMI was 31.0±5.5 kg/m². One woman was a current smoker and alcohol intake was not found in our sample. Thirty-seven percent of our participants had at least one fragility fracture. A severe fragility fracture was recorded in 10.5% and a previous hip fracture was reported in 5.24%. An early menopause was found in 19.5% of our women. Twenty percent of our population were receiving corticosteroids and 8.2% of our population had rheumatoid arthritis. The mean vertebral and total hip BMD was 0.955±0.165 g/cm² and 0.850±0.135 g/cm² respectively. Osteoporosis and low BMD were found in respectively 50% and 34.28%. The median probability of major osteoporotic fracture for our population was 1.5% with an interquartile range from 0.9 to 2.5% without using VFA data and 1.65% with an interquartile range from 1 to 2.6% while taking into consideration VFA results and the difference was statistically significant (p<0.0001). The median probability of hip fracture for our population was 0.4% with an interquartile range from 0.1 to 0.9% without using VFA data and 0.4% with an interquartile range from 0.1 to 1% while taking into consideration VFA results and the difference was statistically significant (p<0.0001). In all patients, the FRAX® was under the threshold intervention even after including the asymptomatic VF and it did not change the therapeutic decision. The presence of asymptomatic VF on VFA changed the therapeutic decision in 15% and indicated an anti-osteoporosis drug therapy.

**Conclusion:** VFA scanning helped in the therapeutic decision in 15% of our population. In this evaluation, we showed that a comprehensive fracture risk pathway incorporating VFA has enhanced diagnosis of vertebral fractures and improved targeting of treatment better than FRAX® tool.

**Disclosure of Interests:** None declared.

**DOI:** 10.1136/annrheumdis-2021-eular.4206

---

**AGREEMENT BETWEEN VERTEBRAL FRACTURE ASSESSMENT AND RADIOGRAPHIC SCAN FOR THE DIAGNOSIS OF VERTEBRAL FRACTURE**

G. Daldoul, N. El Amri, K. Baccouche, H. Zegalou, E. Bouajina, Farhat Hached Hospital, Rheumatology,ousse, Tunisia

**Background:** Conventional radiography of thoracic and lumbar spine are considered the gold-Standard imaging for vertebral fracture (VF) identification. However, there was a growing interest in the use of vertebral fracture assessment (VFA) as a low-radiation tool. In fact, the radiation dose for VFA is about 3 micro-Sievert compared to 600 Sievert for lateral standard radiography. Moreover, it costs 2-times less than X-rays. However, the advantage granted by a lower radiation dose is unfortunately counterbalanced by higher noise rates and therefore lower image quality.

**Objectives:** The aim of this study was to investigate the diagnostic accuracy of VFA compared to lateral spine radiographs.

**Methods:** We conducted a cross-sectional study over a period of 5 months at the rheumatology department. The study included post-menopausal women without a previous diagnosis of VF. Each participant had a BMD assessment, a VFA scan and a lateral thoracolumbar X-rays (Rx) to detect VF. VF were identified according to the Genant semi-quantitative method. The number of unreadable vertebrae were compared between VFA and Rx using a McNemar test. Cohen's kappa statistic was calculated to measure interobserver agreement. The number of unreadable vertebrae on VFA and Rx results.

**Results:** The study included 62 patients were collected. The mean age was 62.0±7.84 years, the mean body mass index (BMI) was 29.99±13.3 kg/m² and the mean menopausal duration was 15.7±8.28 years. Parental history of hip fracture was recorded in 10.5% and a previous hip fracture was reported in 5.24%. An early menopause was found in 19.5% of our women. Twenty percent of our population were receiving corticosteroids and 8.2% of our population had rheumatoid arthritis. The mean vertebral and total hip BMD was 0.955±0.165 g/cm² and 0.850±0.135 g/cm² respectively. Osteoporosis and low BMD were found in respectively 50% and 34.28%. The median probability of major osteoporotic fracture for our population was 1.5% with an interquartile range from 0.9 to 2.5% without using VFA data and 1.65% with an interquartile range from 1 to 2.6% while taking into consideration VFA results and the difference was statistically significant (p<0.0001). The median probability of hip fracture for our population was 0.4% with an interquartile range from 0.1 to 0.9% without using VFA data and 0.4% with an interquartile range from 0.1 to 1% while taking into consideration VFA results and the difference was statistically significant (p<0.0001). In all patients, the FRAX® was under the threshold intervention even after including the asymptomatic VF and it did not change the therapeutic decision. The presence of asymptomatic VF on VFA changed the therapeutic decision in 15% and indicated an anti-osteoporosis drug therapy.

**Conclusion:** VFA scanning helped in the therapeutic decision in 15% of our population. In this evaluation, we showed that a comprehensive fracture risk pathway incorporating VFA has enhanced diagnosis of vertebral fractures and improved targeting of treatment better than FRAX® tool.

**Disclosure of Interests:** None declared.

**DOI:** 10.1136/annrheumdis-2021-eular.4195

---

**THE RELEVANCE OF OSTEOPOROSIS DIAGNOSIS AND TREATMENT FOR DOCTORS WORKING IN THE FIELD OF PHYSICAL AND REHABILITATION MEDICINE**

L. Marchenkova, V. Vasileva, National Medical Research Center for Rehabilitation and Balieneor of Ministry of Health of Russian Federation, Rehabilitation Department for Somatic Patients, Moscow, Russian Federation

**Background:** There is a high prevalence of osteoporosis (OP) among patients of the older age undergoing rehabilitation. Therefore, it is obvious that physicians working in the field of physical and rehabilitation medicine should be well oriented in this medical problem.

**Objectives:** to study the relevance of the problem of osteoporosis (OP) for physicians working in the field of physical and rehabilitation medicine, their awareness of the main methods of diagnosis, treatment and prevention of this disease, as well as the frequency of their use in daily clinical activities.

**Methods:** A cross-type study was carried out using a questionnaire survey. The study included 157 doctors (M=34, F=123) of 8 medical specialties working in 27 specialized medical institutions on the profile of “medical rehabilitation. The questionnaire for doctors consisted of 21 items of special questions.

**Results:** 90.45% of the surveyed doctors believed that the problem of OP is relevant for their clinical activities, 100% of the respondents indicated that the presence of OP significantly affects the rehabilitation prognosis and 95.54% - on the degree of effectiveness of medical rehabilitation. According to the respondents, patients with OP make up on average 30.0% [20.0; 50.0] (0-90) of the total flow of patients. 92.36% (145/157) - what is FRAX. However, 35.01% (55/157) of the respondents considered - methods for treating OP, 80.25 % (126/157) - methods of preventing OP, 47.13% (74/157) - methods for diagnosing OP, 98.73% (155/157) - methods for managing patients with OP Diagnostic procedures for OP are recommended by all endocrinologists (100%), the majority of traumatologists (72.73%), gynecologists (66.67) and cardiology (64.28), as well as on average half (50%) neurologists and therapists. Endocrinologists (100%), gynecologists (66.67%) and therapists (80%) are mainly involved in the treatment of OP. 32.48% (51/157) of physicians have ever referred their patients to a bone mineral density assessment.

**Conclusion:** The problem of OP is relevant for the clinical activities of specialists in physical and rehabilitation medicine, and there is the need for advanced training on the problem of OP among these specialists.

**Disclosure of Interests:** None declared.

**DOI:** 10.1136/annrheumdis-2021-eular.4193

---

**A SINGLE DOSE OF ZOLEDRONATE INDUCES MODIFICATIONS OF SERUM VEGF IN OSTEOPOROTIC POSTMENOPAUSAL WOMEN**

F. Bellone, N. Morabito, A. Gaudioz, A. Sottile, S. Loddo, F. Corica, A. Catalano, University of Messina, Department of Clinical and Experimental Medicine, Messina, Italy; University of Catania, Department of Clinical and Experimental Medicine, Catania, Italy

**Background:** Zoledronate (Zol) is an aminobisphosphonate commonly used to treat osteoporosis and other benign and malignant skeletal diseases. Exposure to bisphosphonates has been previously associated with the risk of osteonecrosis of the jaw (BRONJ), a rare but serious side effect. In cancer patients,