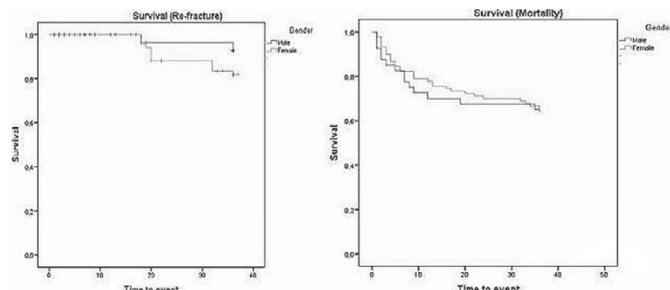


physiotherapy, number of re-fractures, BMI, parent hip fracture, current smoking, corticotherapy, rheumatoid arthritis, secondary osteoporosis, alcohol, history of falls, anti-osteoporotic treatment, Katz index of independence in activities of daily living and Charlson comorbidity index. All FRAX® variables were defined as established in this algorithm.

**Results:** A total of 130 patients satisfied the inclusion criteria, with a mean age of  $82 \pm 8.7$  years, 69% being female). Mortality rates were of 30% and 41% at 1 and 3 years after HF respectively (Fig.1). Age, physiotherapy, parent fractured hip, corticotherapy, alcohol consumption ( $>3$ /day) and Charlson index were statistically significant predictors of mortality at 3 years in multivariable analysis (Tab.1). Re-fracture rates at 1 and 3 years after the index fracture was 3.8% and 11% respectively (Fig.1). We were unable to identify any statistically significant predictors of re-fracture.



**Conclusions:** We concluded that HF have a great impact on the older population, leading to high morbidity and mortality. In our study, age, physiotherapy, parent hip fracture, corticotherapy, alcohol consumption and Charlson index are related with increasing mortality in patients who suffered a fragility HF.

**Disclosure of Interest:** None declared

**DOI:** 10.1136/annrheumdis-2017-eular.4473

#### FRI0559 CORRELATION OF THE FRACTURE RISK ASSESSMENT TOOL (FRAX) AND ASYMPTOMATIC MORPHOMETRIC VERTEBRAL DEFORMITIES IN HIV-INFECTED PATIENTS

M. Llop Vilatella<sup>1</sup>, C. Medina Quiñones<sup>1</sup>, C. Macía Villa<sup>1</sup>, W.A. Sifuentes Giraldo<sup>1</sup>, M. Vázquez Díaz<sup>1</sup>, J.L. Casado Osorio<sup>2</sup>, <sup>1</sup>Rheumatology; <sup>2</sup>Infectious diseases, Hospital Universitario Ramón y Cajal, Madrid, Spain

**Background:** Patients infected with the human immunodeficiency virus (HIV) have a high rate of low bone mineral density (BMD) and is thought to be multifactorial. Some instruments have been developed to estimate the risk of osteoporotic fracture in the general population such as the WHO Fracture Risk Assessment Tool (FRAX), which allows calculating the 10-year probability of fractures in men and women from clinical risk factors with or without the measurement of femoral neck BMD. The cut-off values for high risk of hip fracture  $>3\%$  and for major osteoporotic fracture  $>20\%$ . Although FRAX has been validated in multiple large cohorts, still there are no clear recommendations of its use in HIV-infected patients older than 50 years.

**Objectives:** To evaluate the utility of FRAX tool in the prediction of risk of vertebral morphometric deformity (MVD) in HIV-infected patients over 50 years old seen in a Spanish tertiary care center.

**Methods:** We performed a cross-sectional study in HIV-infected patients with age 50 years treated in our centre during the period 2014–2016. Demographics and risk factors were collected through a specific survey. FRAX was calculated adding HIV as a cause of secondary osteoporosis in all patients with and without BMD measured by dual-energy X-ray absorptiometry scan (DXA). The MVD were assessed using the Genant's semiquantitative method. The sensitivity and specificity of the test were assessed and correlations made with the presence of MVD.

**Results:** A total of 121 patients were included, 34 women (28%), with a mean age of 54.1 years (range: 50–75). MVD was detected in 25 cases (21%). The patients presented with a mean BMI of  $23.7 \text{ kg/m}^2$ , 33% were smokers, 7% had a consumption of  $\geq 3$  doses of alcohol per day, 9% had a family history of hip fracture but no patient presented with previous history of fracture, corticoid treatment or rheumatoid arthritis. The mean FRAX score for major osteoporotic fracture without BMD was of 2.29 (1.1–8.5), there were 2 patients above 7 and any above 10; the mean FRAX score for hip fracture without BMD was of 0.64 (0.1–3.9), 2 patients were above 3. With DXA, osteoporosis in femoral neck was detected in 8% and in the lumbar spine in 30%, while femoral neck osteopenia was detected in 64% and in the lumbar spine in 45%. Including DXA data, the mean FRAX score for major osteoporotic fracture was 2.52 (0.2–8.2), 2 patients were above 7, and for hip fracture the mean FRAX score was 0.67 (0.01–4.4), with 2 patients above 3. The values of FRAX with DXA or without DXA were very similar, with a variation of -0.4 for the mean value of major osteoporotic fracture and +0.03 for the mean value of hip fracture. In ROC curve, a value above 1 in FRAX for hip fracture with DXA, detected 9 MVD of 29 patients (sensitivity 38%, specificity 80%), a value above 2 detected 4 MVD of 10 patients (sensitivity 17%, specificity 93%) and a value of 3 detected 1 MVD of 2 patients (sensitivity 4%, specificity 99%).

**Conclusions:** The FRAX tool does not identify properly the HIV-infected patients older than 50 years with MVD as well as the patients who need DXA. An alternative could be to perform X-rays of thoracic and lumbar spine as a screening method in HIV-infected patients with risk factors.

**Disclosure of Interest:** None declared

**DOI:** 10.1136/annrheumdis-2017-eular.5205

#### FRI0560 PREDICTORS OF FRACTURES IN FEMALE PATIENTS WITH ANOREXIA

M. Rahm, M. Bukhari. Rheumatology, Royal Lancaster Hospital, Lancaster, United Kingdom

**Background:** Anorexia Nervosa (AN) is an eating disorder characterised by extremely low body weight and body image distortion. It is more common in females and is expected to become increasingly more prevalent. Numerous studies have found AN to have a detrimental effect on bone health. The evidence shows that anorexia is associated with reduced bone mass and strength which increases fracture risk. Few studies have looked at other predictors of fracture in these patients.

**Objectives:** The aim of this study was to determine whether further predictors of fracture could be found in female patients suffering from anorexia nervosa (AN).

**Methods:** Female patients with anorexia referred for a bone mineral density (BMD) DEXA scan from June 2006 to October 2014 were identified. This cohort of patients was split into two subgroups depending on their fracture status. Demographics collected on scanning and factors such as age at DEXA scan, height, weight, body fat percentage, BMI, lumbar spine L1-L4 BMD and femoral neck BMD were used to compare the fracture group against the controls. Categorical variables such as smoking, comorbidities (Rheumatoid arthritis), alcohol, family history and steroid use were compared using chi squared test and the T test was used to compare continuous variables. Logistic regression models were used to model fractures unadjusted and adjusting for age at scan.

**Results:** A total of 193 female patients with anorexia were included: 45 (23.3%) had sustained a fracture. The results of statistical analysis are shown in Table 1. The data showed there is a significant association with having a low femoral neck BMD and increased fracture risk OR 0.036 (95% CI 0.003, 0.497). The case group was also significantly taller OR 1.061 (95% CI 1.009, 1.117) and older P value 0.0027 (95% combined CI 39.193, 42.682). There was no correlation with any of the categorical variables and fracture risk, see Table 2 for results.

Table 1. Results of statistical analysis of continuous variables

Characteristic	Significance (P value)	Cases with fractures	Control group
Age at scan (years)	0.0027	45.71 $\pm$ SD10.36	39.49 $\pm$ SD12.46
Height (cm)	0.021	165.08 $\pm$ SD7.45	162.66 $\pm$ SD6.82
Weight (kg)	0.129	58.16 $\pm$ SD13.68	53.73 $\pm$ SD11.83
Body Fat (%)	0.536	16.36 $\pm$ SD11.75	13.62 $\pm$ SD10.28
BMI	0.601	21.24 $\pm$ SD4.31	20.31 $\pm$ SD4.43
Lumbar spine (L1-L4) (g/cm <sup>2</sup> )	0.053	0.98 $\pm$ SD0.18	1.03 $\pm$ SD0.14
Femoral neck BMD (g/cm <sup>2</sup> )	0.013	0.81 $\pm$ SD0.15	0.86 $\pm$ SD0.14

Table 2. Results of statistical analysis of categorical variables

Characteristic	Cases with fracture (45)	Control group (148)	Significance (P value)
Smoker	28.9% (13)	34.46% (51)	0.445
RA	2.22% (1)	0.68% (1)	0.349
Alcohol	8.89% (4)	8.78% (13)	0.524
Family history	31.11% (14)	22.97% (34)	0.403
Steroid	15.56% (7)	8.78% (13)	0.197

**Conclusions:** This study demonstrates that fractures in female patients with anorexia are more likely to occur in those who are taller, older at DEXA scan and in those who have a lower femoral neck BMD. This would indicate that cortical bone loss and taller stature are independent risks in this cohort. Further work using vitamin D levels as a risk should be performed.

**Disclosure of Interest:** None declared

**DOI:** 10.1136/annrheumdis-2017-eular.3778

#### FRI0561 SAFETY OF DENOSUMAB IN POST-MENOPAUSAL OSTEOPOROSIS AND IN CANCER: A SYSTEMATIC REVIEW AND META-ANALYSIS

M. Aubailly<sup>1</sup>, T. Barnette<sup>2</sup>, B. Combe<sup>1</sup>, C. Gaujoux-viala<sup>3</sup>, C. Lukas<sup>1</sup>, J. Morel<sup>1</sup>, H. Che<sup>1</sup>. <sup>1</sup>CHU lapeyronie, Montpellier; <sup>2</sup>CHU bordeaux, Bordeaux; <sup>3</sup>CHU Nîmes, Nîmes, France

**Background:** Denosumab is a RANK ligand antibody (1) used for the treatment of post-menopausal osteoporosis (OP) and prevention of bone metastases complications (2,3).

**Objectives:** The aim of this meta-analysis was to assess the safety of Denosumab. **Methods:** Data sources included MEDLINE, EMBASE, Cochrane Library, and recent abstracts from ACR and EULAR congresses were searched until March 2016. Randomized controlled trials comparing the safety of Denosumab to placebo or bisphosphonates (BP) in postmenopausal OP and in cancer (either cancer with bone metastases or with hormone therapy) were selected. Data were