Table 1. Univariate predictors of fracture in the smoking cohort * denotes significant prediction

Predictor	Fracture (n=1663)	No Fracture (n=2433)	Odds ratio	95% CI
Age (years)	66.58	62.97	1.03*	[1.02, 1.03]
Gender (no. of patients)	Male (383) Female (1280)	Male (469) Female (1964)	0.80*	[0.69, 0.93]
Height (cm)	162.26	162.41	1.00	[0.99, 1.01]
Weight (kg)	71.16	71.16	1.00	[1.00, 1.00]
L1-L4 BMD (g/cm ²)	1.04	1.10	0.19*	[0.13, 0.26]
Femoral neck BMD (left) (g/cm ²)	0.82	0.87	0.08*	[0.05, 0.12]
Total femur BMD (left) (g/cm ²)	0.87	0.92	0.10*	[0.07, 0.16]
% Body fat (g)	308.15	299.89	1.00*	[1.00, 1.00]

In the multivariate model, the only variables associated with increased fracture risk was increasing age at scan decreased BMD total left and increased percentage body fat. All other factors did not significantly increase fracture risk in this cohort.

Conclusion: Our study suggests that many risk factors are associated with fragility fractures in those with smoking as their only risk factor; the best predictor was age at scan, BMD and gender. The percentage body fat association with increased fracture risk is quite surprising and would need further study. Percentage body fat is not currently included in the FRAX™ tool.

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FRIO483 INTEREST OF A SYSTEMATIC SCREENING OF OSTEOPOROSIS IN HEART TRANSPLANT PATIENTS

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Background: Osteoporosis is common among patients with end-stage heart disease. A rapid decrease of bone mineral density (BMD) is usually observed after heart transplantation. Bone loss is probably linked to glucocorticoids and calcineurin inhibitors use and vitamin D deficiency.

Objectives: The aim of this study was to evaluate the interest of a systematic screening of osteoporosis in heart transplant patients.

Methods: We performed a prospective monocentric study including patients, who had of heart transplantation in our hospital, from December 2016 to January 2019. The following parameters were systematically assessed: history of cardiac disease, immunosuppressive therapies, glucocorticoids, previous history of low trauma fracture, known risk factors of osteoporosis, treatment received for bone disease management (calcium, vitamin D and bisphosphonates). Blood tests with creatinine clearance, calcium and vitamin D levels, were assessed. Bone densitometry and spine radiographs (to search asymptomatic vertebral fractures) were assessed in all patients. Osteoporosis was defined respectively for patients ≥ 50 years and < 50 years as a T-score ≤ -2.5 SD and Z-score ≤ -2 SD either at lumbar spine (L2-L4), femoral neck or hip.

Results: A total of 42 patients were included (76.7% male), mean age was 58.1 ± 10.6 years, mean duration after transplantation was 2.6 ± 3.1 years. Past or active smoking statuses were observed in 26 patients (mean 23.9 pack-years). Calcium, vitamin D and bisphosphonates were administered in 13 (30.9%), 10 (23.8%) and one patients, respectively. All patients received prednisone (mean dose: 10.7 ± 4.9 per day). Mean lumbar spine BMD was 1.03 ± 0.25 g/cm² and left femoral neck BMD 0.85 ± 0.15 g/cm². Osteoporosis was observed in 18 (45%) patients. Only one hip fracture was known before heart transplantation. Incidental low trauma fractures after transplantation were diagnosed in 14 patients (33.3%): 11 patients with vertebral fractures (mean 2 vertebral fractures per patient) including 4 patients with asymptomatic vertebral fractures. Others low trauma fractures were hip fracture, proximal humerus and fibula for one patient each. Mean duration between transplantation and the first low trauma fracture was 7.5 ± 3.7 months. Low level of calcemia was found in

20 patients (47.6%) and low level of vitamin D (≤ 30 mg/l) in 32 patients (76.2%) associated with secondary hyperparathyroidism in 21 patients (51.2%), mean creatinine clearance was 51.7 ± 19.9 ml/min. After evaluation, specific treatment of osteoporosis was started for 33 patients (78.6%): zoledronic acid (n=20), denosumab (n=8), alendronate (n=4) and teriparatide (n=1).

Conclusion: Systematic screening of osteoporosis seems to be useful in heart transplant patients. Osteoporosis was observed in half of these patients with a high frequency of low trauma fracture after heart transplantation, particularly in the first year.

Disclosure of Interests: None declared

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FRIO484 RESULTS OF BONE MINERAL DENSITY DURING CELIAC DISEASE: ABOUT 83 CASES

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Background: The prevalence of osteopenia during celiac disease (CD) can range from 38% to 72%. In fact, it is a pathology that causes bone loss and is associated with a higher fracture risk compared to the general population.

Objectives: The aim of this work is to determine the frequency and factors associated with the decline in bone mineral density in adult subjects with CD.

Methods: This is a retrospective study, over a period of 4 years (from January 2014 to December 2018) and including patients followed for MC who had a measurement of bone mineral density (BMD) by DEXA.

Clinical, anthropometric and densitometric data (BMD at the femoral and vertebral site) were recorded.

The WHO criteria for the definition of osteoporosis and osteopenia have been used.

Results: 83 patients were collected among them 12 were men (sex ratio = 0.16). The average age was 38.2 years old. The average body mass index (BMI) was 21.64 kg/m² [13.05 - 31.9 kg/m²]. Undernutrition (BMI < 19 kg/m²) was found in 24 cases. It was associated with hyperthyroidism in 5 cases, autoimmune hepatitis in 1 case and primary amenorrhoea in 2 cases. 2 patients had a history of fragility fracture, and 5 patients had a history of fragility fracture in a first-degree relative.

Osteodensitometry showed low bone mass in 36 cases: osteoporosis in 23 patients (27.7%) and osteopenia in 13 cases. Osteoporosis was found in 21 patients: 1 man and 20 women. Mean femoral BMD was 0.887 g/cm³ and vertebral BMD was 0.999 g/cm³. The mean T-score at the femoral site and the vertebral site were -1.28 SD and -1.26 SD, respectively. No correlation was found between age and BMD and bone status. Comparing patients with a BMI < 19 kg/m² to those with a BMI ≥ 19 kg/m², BMD at the vertebral site was significantly lower in malnourished subjects ($p = 0.01$). A significant correlation was found between BMI and vertebral BMD ($p = 0.000$).

Conclusion: The decline in BMD was observed in third of our patients. It seems to be favored by a low BMI, which is common during CD in relation to the associated malabsorption. Thus, screening for osteoporosis should be advocated early in the course of CD.

Disclosure of Interests: None declared

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FRIO485 TIMED UP AND GO TEST FOR VERTEBRAL FRACTURE PREDICTION

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Background: Sarcopenia describes the age related loss of skeletal muscular mass and function. The development of sarcopenia may confer an increased risk of falls which leads to a potential increase in fracture. The Timed Up and Go (TUG) Test is one of clinical tools used to assess sarcopenia.

Objectives: We hypothesized that slow TUG test performance would predict vertebral fracture (VF) in post-menopausal women independently of bone mineral density (BMD) and other risk factors.

Methods: This is a cross sectional study enrolled from September 2018 to December 2018, including post-menopausal women referred to rheumatology department for measure of BMD. All subjects underwent dual energy X-ray absorptiometry (DeXA) and physical performance tests