between MES and skin involvement (mRss) (p=0.05). On the other hands, FRAX, the major osteoporotic fracture risk, positively correlates with Medsger's kidney disease severity (p=0.04) and Medsger's lung disease severity (p=0.04); in addition, FRAX, for hip fracture risk, seems to correlate significantly with Medsger's lung involvement severity (p=0.04).

Conclusions: This study demonstrates in SSc patients a relationship between clinical disease severity (organ fibrosis/failure) and altered bone microarchitecture (TBS). In addition, skin involvement was found significantly correlated with altered quality of the trabecular bone architecture (TBS) and a significant increase of osteoporotic fracture risk (FRAX) was found correlated with kindey and lung involvement.

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Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2017-eular.6415

FRI0570 OSTEOPOROSIS AND BREAST CANCER: OUTCOMES AT A SPECIALIZED OSTEOPOROSIS CLINIC FOLLOWING A STRUCTURED ASSESSMENT

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Background: Women with breast cáncer (BC) are at risk for the development of bone loss and osteoporosis (OP) mainly due to adjuvant therapies. Aromatase inhibitors (AI) therapy fully suppresses estrogen synthesis, further exacerbating the increased bone resorption and leading to an excess fracture risk. Thus, a close monitoring of bone mineral metabolism is recommended.

Objectives: The aim of the present study was to analyze bone health status and clinical characteristics of women BC referred by oncologist to a specialized clinic and their outcomes during follow-up.

Methods: Retrospective analysis of consecutive female patients with recent BC and low bone mineral density (BMD) referred to the osteoporosis outpatient clinic for assessment, as agreed with oncologists. A descriptive analysis of epidemiological, clinical, laboratory, imaging, and dual energy x-ray absorptiometry (DEXA) data is presented, both at baseline and last visit. 95% confidence intervals (95% CI) were estimated for rate of fragility fractures (FF) at baseline and during follow-up.

Results: A total number of 156 female patients have been assessed up to January 2017; median aged 60.7 (SD±10.6) years old, 89% postmenopausal. BC was mainly non-methastasic (117; 75%), and 110 (70%) patients were on aromatase inhibitors (14 on anastrozole, 89 on letrozole, and 7 on exemestane). 36 patients (23%) were active smokers, and 17 (11%) had stopped smoking. At baseline, 37 patients (24.2%, 95CI% 20–37) had previous FF, mostly vertebral (19) or non-vertebral (13), and three cases had suffered from multiple FF. BMDs were at osteoporotic range at the lumbar spine (median T-score -2.6 p25/75 -2.2, -3.2) and osteopenic at both the femoral neck and hip (mediant T-score -1.9 p25/75 -1.1, -2.3). Regarding antiosteoporotic therapies, bisphosphonates were prescribed in 110 cases (70.5%), denosumab in 24 (15.3%), and raloxifene in two cases (1.2%); in the others (12.8%) only calcium plus vitamin D supplementation was recommended. A total of 107 patients were followed a median of 2.13 years (p25–75 1.23–3.18). During follow-up, new FF occurred in 13 patients (12.1%, 95% CI 6–19), that were vertebral in 8, non-vertebral in 4, both in one case, while no hip FF were detected.

Conclusions: outcomes of a structured assessment of female patients with BC and low BMD are reported here. Despite this, 12% of cases developed a new FF, highlighting the need for special attention to this singular, secondary form of osteoporosis.

Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2017-eular.4928

FRI0571 OSTEOPOROSIS AND BREAST CANCER: CAN FRAX-BASED RISK FACTORS ACCURATELY PREDICT FURTHER FRACTURES AT THIS SETTING?

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Background: Women with breast cáncer (BC) are at risk for the development of bone loss and osteoporosis (OP) mainly due to adjuvant therapies, as aromatase inhibitors (AI). Thus, it would be of special interest in this group of patientes, to know at baseline wich factors can predispose to develope fragility fractures (FF) during follow-up, in order to optmize vigilance and treatment.

Objectives: The purpose of this study is to analyze wich risk factors at baseline that can predict the appereance of a new FF in women with BC and OP.

Methods: Retrospective analysis of consecutive female patients with recent breast cancer (BC) and low bone mineral density (BMD) referred to the osteoporosis outpatient clinic for assessment, as agreed with oncologists. Fort he purpose of this anaylisis, only patients with follow-up data (at least six months after baseline visit) were selected. FRAX tool [1]-derived risk factors (age, BMI, DEXA, previous fracture, parent fractured hip, smoking, alcohol, glucocorticoids, rheumatoid arthritis, secondary OP) were taken as explicative variables. Student's t and chi-2 tests were used to perform comparisons base don the appereance of new FF in the study period.

Results: A total number of 156 female patients have been assessed up to January 2017. Of the 107 patients in follow-up (68.5%; median time in follow-up 2.1 years p25–75 1.2–3.2). Median age was 62.07 years old (SD±10,35), being 89% of them postmenopausal. 73 (68,2%) were on AI therapy (10 anastrozole, 59 letrozole and 4 exemestane). At baseline, 29 patients (27.1%) showed a FF (15 vertebral; 10 non vertebral; 2 hip; 2 multiple fracture). Antiosteoporotic treatment was recommended in 95 patients (88.7%). During follow-up, 13 FF were seen (12,1%; CI95% 6–19); being 8 of them vertebral, 4 not vertebral, and one multiple fracture; no new hip FF was seen.

After comparison of the different risk factors according to the development of a new FF, no significant association was found (see table).

Table 1

	New fragility fracture		p
	NO (n=94)	YES (n=13)	
Age (years old), mean ±SD	62.0±10.7	62.1±9.9	0.956
BMI (kg/m^2), mean ±SD	26.5±7.1	23.1±10.0	0.213
Follow-up duration (months) median ±SD	28.6±19,4	30.6±12.8	0.723
DEXA at lumbar spine (T-score) median ±SD	-2.7±0,8	-2.9±0.6	0.256
GFR (ml/min) mean ±SD	91.7±16.0	97.2±11.2	0.282
Menopause (%)	93.4	91.6	0.822
Previous fracture (%)	27.1	38.4	0.512
Parent fractured hip (%)	11.0	25.0	0.125
Smoking (%)	10.0	8.3	0.721
Glucocorticoids (%)	9.9	7.7	1.000
Rheumatoid arthritis (%)	3.2	0	1.000
Aromatase inhibitor (%)	70.9	69.2	0.897
Antiosteoporotic treatment (%)	88.4	92.3	0.676

Conclusions: In this study no relationship between FRAX-based risk factors and the development of new FF in women with OP and BC was found. As new FF occurred in 12% of cases, it highlights the need for special attention to this singular, secondary form of OP.

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Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2017-eular.5211

FRI0572 IDENTIFYING WOMEN AND MEN AT HIGH FRACTURE RISK BY LEVERAGING THE ELECTRONIC MEDICAL RECORDS TO ESTIMATE FRAX TREATMENT THRESHOLDS

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Background: In the busy clinic, identifying individuals at high fracture (fx) risk who warrant intervention can be a challenge. There are several medical conditions that increase the risk for bone loss and falls which are recorded in the electronic medical record (EMR).

Objectives: We explored whether we could exploit data available in the EMR to estimate FRAX treatment thresholds to help passively identify patients who would benefit from further bone mineral density screening and management.

Methods: We studied 912 women and men, previously recruited for our bone health studies, in whom FRAX scores (with and without BMD) had been determined and comprehensive medical diagnoses were available through the medical linkage system of the Rochester Epidemiology Project. All diagnoses were categorized by the Clinical Classification Software (CCS) system whereby over 14,000 ICD-9-CM diagnoses are reduced to 568 clinically meaningful categories. If a subject had at least two diagnoses in a CCS category that were at least 30 days apart and within 5 years of their FRAX assessment, the subject was treated as having that CCS code. We used Gradient Boosting Machine (GBM) to create models that would predict the treatment thresholds for the FRAX 10-year risk for major osteoporotic (OP) fx (>20%) and hip fx (>3%), based on available diagnoses. Models were fit using age, sex and CCS category from 80% of the data, retaining 20% for validation.

Results: Of the 564 (62%) women and 348 (38%) men, the mean ± SD age was 61±16 yrs. There were no significant differences in subject characteristics used for FRAX calculation or FRAX scores between the training and validation sets. The c-statistic for GBM models predicting treatment thresholds for FRAX, calculated with BMD, for major OP fx and hip fx were 0.95 and 0.96, respectively, for the training set, and 0.88 and 0.94 for the validation set. Similar results were observed for FRAX scores without BMD.

Conclusions: FRAX treatment thresholds may be reasonably estimated from data available in the EMR to help identify to the clinician those at highest risk