associated with osteoporosis. Adiponectin levels of 43.9 μg/ml and lower were associated with normal bone density.

Conclusions: Thus, we revealed that Adiponectin levels depend on osteoporosis presence in RA patients. We suppose that Adiponectin determination may be useful laboratory marker for OP diagnosis.

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FRI0555   LEFT VENTRICULAR EJECTION FRACTION AND BONE MINERAL DENSITY AFTER CARDIAC TRANSPLANTATION

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Background: Left ventricular ejectionfraction (LVEF) has beendirectlyassociatedwith BMD in patientswithheartfailure. Nevertheless, no study has linked yet the left ventricular ejection fraction to bone mineral density and fragility fractures in cardiac transplantation.

Objectives: The main aim of this study was to evaluate the possible relationship between LVEF and BMD in heart transplantation and the association of LVEF with 25 OH vitamin D, paratohormone (PTH) and markers of bone remodeling in patients with heart transplantation (osteocalcin, telopeptide C terminal (CTX).

Methods: Seventy nine patients (66 male) were included in this cross-sectional study with a mean age of 55,75±14,81 years, body mass index (BMI) values of 26,95±5,35 kg/m^2 and an average post-transplantation period of 8,46±8,71 years. Transthoracic doppler echocardiography measuring LVEF (%) was calculated for each of patients, as well as bone mass study that included: bone mineral density scans of lumbar spine and hip, spine radiography, biomarkers of bone metabolism (calcium, phosphorus, osteocalcin,CTX,Parathyroid hormone and vitamin D). The association of LVEF with BMD and biomarkers of bone remodeling was determined by performing multiple linear regression analysis adjusted for variables directly related to BMD (age, sex, BMI, post-transplantation period and pharmacological treatment (daily corticoids dose, immunosuppressive treatment).

Results: A total of 79 patients were included in this present study. BMD in osteoporotic range was found in 31.2% of patients (17.7% in spine,16.52% in femoral neck and 13% in hip). Vitamin D deficiency (≤20ng/d) was detected in 68.4% of patients. Vertebral fracture was found in 30.4% and a 2.6% hip fracture. Bivariate analysis showed that the group of patients with FEVI ≤65% had a higher proportion of femoral neck osteoporosis (p=0.04), higher proportion of osteoporosis in total hip (p=0.03) and higher percentage of vertebral fractures (p=0.04) compared with group with LVEF>65%.

The multiple linear regression analysis indicated that LVEF was independently associated with osteoporosis in spine (B = -5.225, p=0.011), femoral neck osteoporosis (B = -5.411, p=0.015) and vertebral fractures (B = -5.433, p=0.002). In addition, LVEF was associated with osteocalcin levels (B = -0.105, p=0.002).

Conclusions: These results suggest that post-transplantation LVEF may have an influence on bone remodeling. However, further studies are neededin order to consider LVEF as a risk factor for osteoporosis and fractures due to fragility after heart transplantation.

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FRI0556   LONG-TERM EFFECTS OF BACK EXTENSOR STRENGTHENING EXERCISES ON QUALITY OF LIFE IN WOMEN WITH OSTEOPOROSIS

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Background: A correlation exists between bone mineral density and physical activity level, suggesting that exercise may increase peak bone mass. Back extensor strength has been of major importance and had a strong effect on quality of life in this population.

Objectives: The aim of the present study was to evaluate the long-term effect of back extensor strengthening exercises on health-related quality of life (QOL) in women with osteoporosis.

Methods: In this randomized clinical trial, 183 women with osteoporosis were treated with pharmacotherapy and weight-bearing and balance-training exercises. The case group additionally performed back extensor exercises at home. Patients filled out the Persian version of the Short Form (SF-36) QOL questionnaire at baseline and 6 months post treatment.

Results: At the end, all physical and mental parameters of the SF-36 questionnaire

improved significantly in the case group, except for one subscale of mental health, compared to the control group. In the control group, only some physical health dimensions (bodily pain, role limitation, physical function, vitality), and mental health status as a mental health subscale improved.

Conclusions: considering a major impact of back extensor exercises on improving QOL in women with osteoporosis over the long term, these exercises should be prescribed in routine management of these patients.

Disclosure of Interest: None declared
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FRI0557   DOES WEIGHTED KYPHO-ORTHOSIS (WKO) REDUCE RISK OF FALL IN WOMEN WITH OSTEOPOROSIS? A PRELIMINARY STUDY

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Background: It was suggested that posture training support with spinal orthosis including weighted kyphorthosis can improve balance in patients with osteoporosis.

Objectives: The aim of the present study was to determine the effects of weighted kyphorthosis on improving dynamic balance tests and consequently reducing risk of fall in women with osteoporosis.

Methods: In this Randomized controlled clinical trial, twenty three patients with osteoporosis were included. The patients were assigned into two groups: 1) control group who received 4-week home-based daily exercise program and 2) intervention group (weighted kyphorthosis) who performed exercises and wore weighted kyphorthosis for one hour twice a day. Patients were assessed using computerized balance tests by Balance Master (NeuroCom) (Limits of Stability, Step Quick Turn, Sit to Stand and Walk across tests) before and 4 weeks after start of treatment.

Results: Speed in walk across test was improved significantly in both groups compared to baseline from (77.6±25 cm/s to 91.57±30 cm/s and from 72.60±20cm/s to 88.73±18 cm/s)in case and control groups respectively. Improvement in right turn time in step quick turn, end point excursion and mean of excursion parameters of Limits of Stability was more significant in orthosis group in comparison with control group (P<0.05).

Conclusions: Applying WKO together with exercise program improved some computerized balance tests in women with osteoporosis.WKO can be suggested as an effective intervention in postmenopausal women in order to reduce the risk of falling.

Key words: Osteoporosis, balance tests, Weighted KyphOrthoris, posture training support.

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FRI0558   PREDICTORS OF MORTALITY AND RE-FRACTURE AT 1 AND 3YEARS AFTER HIP FRACTURE

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Background: Osteoporosis is a major health problem, particularly in the elderly, because of fragility fractures and their consequences. Hip fractures (HF) are the most ominous in terms of morbi-mortality.

Objectives: The aim of our work was to establish the current mortality and re-fracture rate at 1 and 3 years after HF, as well as their predictors.

Methods: The study included all patients aged >40 years, admitted to Coimbra University Hospital between May and October 2013 with the diagnosis of HF. Demographic and clinical data related to the fracture episode was collected from medical files. Patients or the caregiver were contacted to assess potential risk factors at baseline and major post-fracture events at 1 and 3 years after the index HF. The mortality and re-fracture rate 1 and 3 years after fracture were calculated. Possible predictor variables were tested by cox regression analysis: age, gender,

Table 1. Mortality and refracture predictors

	Mortality		Re-fracture	
	p-value	Exp (b)	p-value	Exp (b)
Gender	0,106	2,052	0,265	3,089
Age	0,002	1,075	0,276	0,953
Katz index	0,116	1,154	0,752	0,918
Physiotherapy	0,020	2,167	0,499	0,638
BMI	0,812	0,991	0,142	0,891
Parent hip fracture	0,015	0,355	0,196	0,322
Current smoking	0,453	0,615	0,394	0,417
Corticotherapy	0,013	0,404	0,639	0,637
Rheumatoid arthritis	0,071	2,848	0,798	1,410
Secondary osteoporosis	0,172	0,566	0,154	0,321
Alcohol intake	0,037	0,370	0,980	348544,658
Charlson index	0,000	1,384	0,835	0,941
Number of re-fractures	0,660	0,781		
Anti-osteoporotic treatment			0,430	0,474