Results: Patient characteristics: Mean age: 70±9.8 SD years, Gender: 98% were females, 2% Males. 75% had RA, 10% SLE, 15% had other rheumatic diseases. 70% on TNF inhibitors, 30% on other biologics. Before Denosumab (over 2 years): cumulative infection rate 17.5%, which is 8.75 cases per 100 person-years. 9% hospitalization rate. Post Denosumab: After 12 months: No infections within the first year. After 60 months: incidence rate of infections=12.5 cases/100 person-years. After 66 months, incidence rate of infections=15.9 cases/100 person-years. Urinary tract infection (UTI) accounted for the most common infection (17.5%). No opportunistic infections, and no reactivation of latent TB found in our patients.
Conclusions: No infections developed within the first year, suggesting a cumulative effect of increased infection risk, if any. We cannot attribute the overall infection rate solely to the combination of denosumab and biologics as patients who developed infections either had Diabetes Mellitus, urinary incontinence, recent surgery, underlying pulmonary disease. Patients did not develop infections beyond what would be expected for their comorbidities and medications. Whether prophylactic antibiotics are indicated in patients with recurrent infections PRIOR to denosumab is uncertain, but may be a consideration in certain patients.
References:
[1] Cummings SR, San Martin J, et al. Denosumab for prevention of fractures in postmenopausal women with osteoporosis. N Engl J Med. 2009;361:756–765. doi: 10.1056/NEJMoa0809493.
Disclosure of Interest: None declared
DOI: 10.1136/annrheumdis-2017-eular.1140

AB0853 DENOSUMAB: CLINICAL PERSPECTIVE AND DRUG SURVIVAL IN A SECONDAY CARE SET UP IN UK

R. Laxminarayan, U. Dissanayake, N. Sayed, K. Narangoda. *Rheumatology, Queen's Hospital, Burton on Trent, United Kingdom*

Background: Denosumab has become a useful parental therapy for the treatment of osteoporosis. FREEDOM extension study has shown safety and effectiveness of denosumab beyond 8 years. Real life data on the efficacy and safety of denosumab is lacking. There are no studies looking at the drug survival in the osteoporosis population either. Observational data from clinical practice can provide unique clinical perspective for novel therapies like denosumab.
Objectives: 1. To look at the baseline characters of patients receiving denosumab in a secondary care unit in UK.
2. To study the drug survival rate, analyse the reasons for discontinuation of therapy.
3. To assess fractures during the course of denosumab therapy.
Methods: We looked at the case records retrospectively of all the patients receiving denosumab therapy from 01/01/2011 to 31/12/2016. A database to record baseline characters, indications and previous fracture was prepared. Renal function, calcium, alkaline phosphatase (ALP), vitamin D levels at baseline and renal function, calium and ALP levels for each injection visit were noted. Vitamin D status was assessed at least once a year. Reasons to stop therapy were recorded.
Results: 237 patients were offered the treatment. One patient declined the treatment at the beginning.
5 (2.1%) patients had fracture on treatment. 2 had a hip fracture and one of them had a previous fracture (humerus). Other fracture sites were ankle, humerus and metatarsal. None of them had any further fractures during the follow up period.
61 patients discontinued therapy during the course of treatment over 3 years. 8 (4.2%) had infections, 7 (3.6%) due to declining eGFR and 9 (4.7%) were lost to follow up. 1 patient had jaw necrosis after the first injection. 1 developed hepatitis after the first injection which resolved on withdrawal of therapy. 6 (3.1%) patients withdrew consent for therapy. 19 (8%) patients died causes unrelated to denosumab therapy. 23 (9.7%) patients moved away. Treatment was stopped due to other side effects in 3 patients (2 had rash and 1 headache). There were no episodes of hypocalcaemia.
Conclusions: 1. Majority patients were elderly and female. Majority were high risk and had received osteoporosis treatments previously.
2. Denosumab therapy was well tolerated and nearly 2/3rd were stll receiving therapy at 3 years. Treatment was withdrawn due to an adverse event in only 14 (6%) patients.
3. Fracture rate was very low and there were no repeat or multiple fractures.
References:
[1] Pappapoulos S et al. The effect of 8 or 5 years of denosumab treatment in postmenopausal women with osteoporosis: results from the FREEDOM Extension study. Osteoporosis Int. 2015 Dec;26(12):2773–83.
Disclosure of Interest: None declared
DOI: 10.1136/annrheumdis-2017-eular.5290

Abstract AB0853 – Table 1. Baseline characters

Total no of patients	Gender F (%)/M (%)	Age (in years) Mean (range)		eGFR Mean (range)		Prior fracture (%)		Baseline bone density (data for 99 patients)	
236	210 (89%)/ 26 (11%)	76 (45–95)		37.9 (17.7–90)		93 (39.4%)			
		>75	142 (60%)	<30	7 (3%)	Vertebral	37 (39.8%)	Osteoporosis	61 (61.6%)
		65–74	65 (27.4%)	30–59.9	88 (37.2%)	Wrist	12 (13%)	Osteopenia	30 (30.3%)
		55–64	22 (8.8%)	>60	141 (59.3%)	Hip	8 (8.6%)	Normal	8 (8.1%)
		<55	9 (3.8%)			Multiple	4 (4.3%)		

AB0854 THE BMD CHANGE AFTER IBANDRONATE (BONVIVA®) TREATMENT IN OSTEOPENIC POSTMENOPAUSAL WOMEN

S.E. Park, K. Choi. *Orthopaedic Surgery, Dongguk University International Hospital, Seoul, Korea, Republic Of*

Background: Ibandronate (Bonviva®) is effective in the treatment of postmenopausal women with osteoporosis. But, there were few datas about Ibandronate (Bonviva®) treatment in Korea. We evaluated the effect of Ibandronate (Bonviva®) therapy on bone mass and compared the effectivity on bone mineral density (BMD) in 1-year treatment group
Objectives: The aim of the study is to assess the effect of 1-year treatment with Ibandronate (Bonviva®) on bone mineral density (BMD) in postmenopausal women with osteopenia or osteoporosis.
Methods: The BMD was assessed in 118 postmenopausal women with osteopenia or osteoporosis from March 2007 to January 2011, 42 patents who treated with 2.5 mg per day of Ibandronate (Bonviva®) were enrolled to study. BMD of lumbar spine (L2-L4) and femur was assessed by dual energy absortiometry at baseline, 12 months after treatment.
Results: The annual BMD of the lumbar spine showed a 9.11% increase, while also positive changes were noted in the proximal femur as a 1.89% increase. The BMD changes were 11% (L: Lumbar spine) and 1.1% (F: Femur) for the T-scores <-4.0, 6.3% (L) and 0.9% (F) for the T-scores -3.0∼-4.0, and 3.8% (L) and 0.5% (F) for the T-scores >-3.0 respectively.
Conclusions: This study suggests that Ibandronate (Bonviva®) treatment in postmenopausal women with osteopenia or osteoposis is effective in terms of improving BMD.
References:
[1] Llewellyn-Jones D. Osteoporosis. In: Burger H, Boulet M editors. A portrait of the menopause: expert reports on medical and therapeutic strategies for the 1990s. Lancs: The Parthenon Publishing Group 83–103, 1991.
[2] Kanis JA, Melton LJ III, Chistiansen C, Johnston CC, KhaltaevN. The diagnosis of osteoporosis. J Bone Miner Res 9:1137–1141, 1994.
Disclosure of Interest: None declared
DOI: 10.1136/annrheumdis-2017-eular.1036

AB0855 THE DISPARITIES BETWEEN FRACTURE RISK ASSESSMENT (FRAX) WITH BMD AND WITHOUT BMD IN KOREAN PATIENTS WITH ANKYLOSING SPONDYLITIS- MULTICENTER TRIAL

S.-R. Kwon[1], S.T. Choi[2], C.-H. Suh[3], H.-A. Kim[3], J.-Y. Jung[3], S.-S. Kim[4], S.-H. Kim[5], J.-M. Kim[5], S.-Y. Lee[1]. *[1]Division of Rheumatology/Dept. of Internal Medicine, College of Medicine, Inha University, INCHEON; [2]Division of Rheumatology/Dept. of Internal Medicine, College of Medicine, Chung-Ang University, Seoul; [3]Division of Rheumatology/Dept. of Internal Medicine, College of Medicine, Ajou University, Suwon; [4]Division of Rheumatology/Dept. of Internal Medicine, College of Medicine, Ulsan University, Gangneung Asan Hospital, Gangneung; [5]Division of Rheumatology/Dept. of Internal Medicine, College of Medicine, Keimyung University, Daegu, Korea, Republic Of*

Objectives: The aims of this study are to determine the proportion of patients with ankylosing spondylitis (AS) at high risk for major osteoporotic and hip fractures of Fracture risk assessment (FRAX) in Korean and to determine if a care gap exists for high risk.
Methods: This study is a multicenter study including 163 AS patients in 5. All of the AS patients fulfilled the modified New York criteria. The classification of osteoporosis according to WHO criteria was based on T-score ≤ -2.5. The FRAX criteria for high risk of osteoporotic fracture, which is 10-year probability of ≥20% for major osteoporotic fracture or ≥3% for hip fracture, were calculated by the FRAX tool including the bone mineral density (BMD) values. We assessed various demographic factors, clinical and laboratory findings of AS, and medication use for AS and osteoporosis, and then evaluated the risk factors for osteoporotic fracture.
Results: The mean age of AS patients was 44.3 years, and 42 patients were female (25.2%) with 23 postmenopausal women 56.1%. Osteoporotic fracture was detected in 16 (9.8%) patients with AS. Among the 16 patients ≥65 years of age, 2 (12.5%) and 8 (50%) were at high risk for a major osteoporotic fracture (10-year probability >20%) and hip fracture (>3%), respectively.
Among patients with BMD measurements (n=106), the 10-year risk of a major osteoporotic fracture and hip fracture calculated with BMD was significantly higher than in those without BMD measurements (P=0.001, P=0.002) respectively. The 10-year risk of a major osteoporotic and hip fracture fracture calculated with BMD was significantly higher than in those without BMD measurements (P<0.001, P=0.003) respectively among male patients with BMD measurements (n=74). There is no statistic difference of the 10-year risk of a major osteoporotic fracture

and hip fracture between those calculated with BMD and those without BMD measurements (P>0.05) respectively among female patients (n=32).
Conclusions: A substantial gap exists between FRAX with BMD and without BMD in Korean patients with AS.
Disclosure of Interest: None declared
DOI: 10.1136/annrheumdis-2017-eular.5575

AB0856 T-SCORE OF THE SPINE AS PREDICTOR OF THE FEMORAL NECK FRACTURE

S.D. Jandric. *Department for FRM, Faculty of Medicine, University of Banjaluka, Banja Luka, Republic of Srpska, Bosnia and Herzegovina*

Background: Osteoporosis is defined as a progressive, systemic skeletal disorder characterized by low bone mass and micro-architectural deterioration of bone tissue with a consequent increase in bone fragility and susceptibility to fracture. There are numerous hip fracture risks. Bone mineral density (BMD) and T-score measured by dual-energy X-ray absorptiometry (DXA) are the main determinants of the clinical evaluation of hip fracture risk. World Health Organization classification defined osteoporosis as T-score below –2.5 SD.
Objectives: The aim of this study was to estimate differences in DXA measurements (BMD and T-score of the spine) and potential predictors of the femoral neck fracture in the patients with osteoporosis.
Methods: This study included 181 patients with osteoporosis (165 female and 16 male), average age of the 65, 6±8.5 years (range of 44.1 to 87.3 years). Eighty one patients had fracture of the femoral neck. All patients in this group were managed operatively by hip arthroplasty, after clinical and radiological diagnostic procedures. DXA measurement was performed on Advanced Prodigy Lunar device for these patients postoperatively. BMD of the femoral neck was measured on the no operated side. Age, sex, height, weight, BMI, BMD and T-score of the spine at the level of L1-L4, BMD of the right and left femoral neck were estimated. The control group included 100 patients with osteoporosis (93 female and 7 male), average age of the 65.1±8, 5 years. Student's t-test and Logistic regression were used for statistical analysis. Dependent variable was presence of the fracture of the femoral neck and independent variables were age, sex, height, weight, BMI, BMD and T-score of the spine and BMD of the femoral neck.
Results: Results of our study showed statistically significant difference between T-score of the spine (t=-2,973, p<0.01) as well as between BMD of the spine (t=-12,376, p<0.001) of patients with and without fracture of the femoral neck. T-score of the spine was significant predictor of fracture of the femoral neck (p<0, 01) when controlled by age, sex, height, weight, BMI, BMD of the spine, BMD of the femoral neck.
Conclusions: T-score and BMD of the spine were statistically significantly lower in patients with fracture of the femoral neck than in patients with osteoporosis without fracture. T-score of the lumbar spine was significant predictor of fracture of the femoral neck in patients with osteoporosis. Probability of femur neck fractures increased with the decrease of T-score of lumbar spine in patients with osteoporosis. These results can help in predicting femur neck fractures.
References:
[1] British National Formulary. September 2005; 385–9.
[2] Vid KS JA, Thien A, Hill R. Ann R. Implementation of and compliance with NICE guidelines in the secondary prevention of osteoporotic fractures in postmenopausal women. Coll Surg Engl 2008; 90: 213–5.
[3] Del Rio LM, et al. Is bone microarchitecture status of the lumbar spine assessed by TBS related to femoral neck fracture? A Spanish case-control study. Osteoporos Int. 2013; 24(3):991–8.
Disclosure of Interest: None declared
DOI: 10.1136/annrheumdis-2017-eular.2768

AB0857 PROBLEMS OF DIAGNOSTICS AND PROPHYLAXIS OF GLUCOCORTICOID-INDUCED OSTEOPOROSIS IN REAL CLINICAL PRACTICE

S. Yakupova, R. Demidov. *Kazan State Medical University, Kazan, Russian Federation*

Background: Oral glucocorticoids (GC) are used in different medicine fields and appear as risk factors of glucocorticoid-induced osteoporosis (GIO).
Objectives: The aim is to estimate the frequency of use of prophylaxis of OP, use drugs that are approved for GIO and also an awareness of GIO of patients with prolonged intake of GC.
Methods: 50 patients (10 men and 40 women), taking GC, took part in research. 30 patients (60%) were from rheumatology department, 5 patients (10%) from pulmonology department, 5 patients (10%) from gastroenterology department, 10 patients (20%) from nephrology department of Republic Clinical Hospital. Mean age of patients - 48,84±14,03 years (from 26 to 73). The following signs were estimated: clinical data, osteoporosis risk factors, instrumental tests (X-ray, densitometry). FRAX assessment of fracture risk was performed, the questionnaires of patients' awareness of GIO was completed.
Results: The duration of intake GC – 5,93±4,86 years. Minimal dose of GC per day (if receiving prednisone) – 7.5 mg; maximal dose – 60 mg. 10-year risk of major osteoporotic fractures by FRAX, adjusted according to GC dose - 18,11±11,01. 32 patients (64%) were given recommendations for changing lifestyle and diet for GIO prophylaxis, 40 patients (80%) - recommendations for intake of calcium and vitamin D medications, but only 31 patients (62%) followed recommendations and started the intake of calcium medications. From the said number of patients only 14 patients (45,2%) used appropriate daily dose of calcium and vitamin D.
Drugs that are approved for GIO were have to be prescribed for 18 patients, but only 6 patients (33,3%) underwent treatment, principally bisphosphonates. Only half of them underwent densitometry after starting the therapy. 72,2% patients with GIO used calcium and 30,7% were taking appropriate daily dose of calcium and vitamin D. 70% rheumatologic patients knew about GIO and in 90% cases calcium and vitamin D drugs were recommended. Only 50% of patients from non-rheumatologic departments knew about GIO and in 65% cases calcium and vitamin D drugs were recommended.
Conclusions: Clinical recommendations in real clinical practice are rarely fulfilled. Less than 60% patients were taking calcium and vitamin D, which are recommended for all patients, who started the GC therapy; only 33% of patients received osteoporosis therapy, only half of them underwent densitometry. Patients are insufficiently informed about necessity of changing lifestyle and diet for GIO prophylaxis. Education for patients taking GC and training for rheumatologic and non-rheumatologic specialties are necessary.
Disclosure of Interest: None declared
DOI: 10.1136/annrheumdis-2017-eular.6867

AB0858 ASSOCIATION OF BONE MINERAL DENSITY WITH DEVELOPMENT OF HEART FAILURE IN DIABETIC PATIENTS

V. Vasilkova[1], T. Mokhort[2], E. Naumenko[3], M. Zmailik[4]. *[1]Endocrinology, Gomel State Medical University, Gomel; [2]Endocrinology, Belarusian State Medical University, Minsk; [3]Functional Diagnostics; [4]Endocrinology, The Republican Research Center for Radiation Medicine and Human Ecology, Gomel, Belarus*

Background: Diabetes mellitus has shown to be a significant risk factor for the development and prognosis of heart failure (HF) and associated with an increased risk of fractures [1]. Osteoporosis and heart failure are generally considered two distinct diseases, but recent evidence suggests a link between both diseases.
Objectives: The aim of the study was to investigate the association of bone mineral density with the risk of developing heart failure in diabetic patients.
Methods: 85 patients both sexes with type 2 diabetes aged 58.69±9.07 years were studied. Besides standard laboratory parameters, the echocardiographic and BMD measurements were performed. Estimated glomerular filtration rate was measured.
Results: Among diabetic subjects, 8 patients (9.4%) had osteoporosis, 21 (24.8%) had osteopenia and 56 (65.8%) had a normal BMD. Increased serum NT-proBNP (p<0.001) and decreased left ventricular ejection fraction (EF) (p=0.03) were significantly correlated with low T-score L1-L4 cutoff points between groups (normal, osteopenia, and osteoporosis). Multivariate stepwise linear regression analysis of the significant variables revealed that NT-proBNP, EF were independent predictors of lumbar BMD among female patients with diabetes mellitus. After adjusting for age, gender, and related comorbidities, the osteoporosis group was associated with a significantly higher risk of coronary artery disease in women with diabetes. However, no association between BMD and HF was found in men.
Conclusions: Osteoporosis may be an independent factor for HF in women with diabetes mellitus. Our data suggested that early detection of abnormal BMD should warrant for early search of undetected HF in diabetic women. A further study is needed to elucidate the effects of BMD on cardiac function in diabetic patients.
References:
[1] Heart failure is a risk factor for orthopedic fracture: a population-based analysis of 16,294 patients. van Diepen S, Majumdar SR, Bakal JA, McAlister FA, Ezekowitz JA Circulation. 2008 Nov 4; 118(19):1946–52.
Acknowledgements: We acknowledged the help from the Republican Research Center for Radiation Medicine and Human Ecology for the technical assistance.
Disclosure of Interest: None declared
DOI: 10.1136/annrheumdis-2017-eular.3867

AB0859 CAN ZOLENDRONIC ACID USE LEAD TO IMPAIR RENAL FUNCTION IN OSTEOPOROSIS PATIENTS?

Y.-C. Chen, C.-H. Ko. *Rheumatology, Kaohsiung Chang Gung Memorial Hospital, Kaohsiung, Taiwan, Province of China*

Background: Bisphosphonates are recommended in patients with osteoporosis patients. clinical concerns had been considered in kidney safety.
Objectives: This study investigated the safety of bisphosphonate effects on renal function in patients with magnetic resonance imaging (MRI)-proven acute osteoporotic vertebral fractures after vertebroplasty.
Methods: This retrospective study was conducted in osteoporotic patients with acute vertebral fractures treated with vertebroplasty between January 2001 and December 2015. Their gender, age, body mass index (BMI, kg/m^2), co-morbidities were recorded, as well as their use of zolendronic acid. Those with increase in creatinine was defined as progress of renal function. Logistical regression was used to adjust the variables.
Results: There were 989 patients (783 females; mean age, 74.08±9.26 years).