($n = 5$). Non-target lipid levels were detected in 44.7% of low-risk patients, in 83% of medium risk patients, in 78.6% of high risk patients, in 100% of very high risk patient. Absolute indications for statin therapy were detected in 17.4%.

Hemodynamically insignificant carotid plaques (stenosis $<50\%$) was detected in 56.5% of patients with RA: in 23.7% of low risk category, in 74.3% of medium risk patients, in 85.7% of high risk patients, in 100% of very high risk patients. A severe calcification of the coronary arteries was detected in 25% (the coronary index is more than 300 U or > 75 percentile of the age- and sex-related reference values, in according to MESA): in 5.3% of low risk patients, in 37% of medium risk patients, in 28.6% of high risk patients, in 80% of very high risk.

After carotid ultrasound 38% (34/92) of RA patients were reclassified from the category of low and medium cardiovascular risk on the mSCORE scale to the high risk category. The proportion of patients with high cardiovascular risk increased in 3.5 times (53.2%, $p < 0.001$). There were 42 patients with non-target lipid levels in the high risk category. The proportion of patients with absolute indications for statins increased in 2.9 times compared with the results of the mSCORE evaluation ($n = 47/92$; 51%; $p < 0.001$).

After MDCT assessment of coronary calcification 16.3% (15/92) of RA patients were reclassified from the category of low and medium cardiovascular risk on the mSCORE scale to the high risk category. The proportion of patients with high cardiovascular risk increased in 2.1 times (31.5%, $p < 0.001$). There were 24 patients with non-target lipid levels in the high risk category. The proportion of patients with indications for statins increased in 1.8 times compared with the results of the mSCORE evaluation ($n = 29/92$; 31.5%; $p < 0.001$). Carotid ultrasound more often reveals indications for statin therapy, $p < 0.001$.

Conclusion: The use of the mSCORE scale is not sensitive enough for stratification of cardiovascular risk in RA patients due to the high incidence of subclinical atherosclerosis in this population. The use of carotid ultrasound and the MDCT assessment of coronary calcification significantly improve the stratification of cardiovascular risk in patients with RA, which helps to identify patients requiring intensive prevention of cardiovascular complications. The frequency of identifying patients with absolute indications for statin therapy when performing carotid ultrasound is significantly higher than MDCT assessment of coronary calcification.

Disclosure of Interests: None declared

DOI: 10.1136/annrheumdis-2019-eular.3971

AB0356 COMPARISON FOREARM BONE MINERAL DENSITY BETWEEN LUMBAR SPINE AND HIP: A USEFUL TOOL TO SCREEN OSTEOPOROSIS IN FEMALE PATIENTS WITH RHEUMATOID ARTHRITIS

Yu Wang, Zhuoli Zhang. First hospital of Peking University, Beijing, China

Background: DXA is widely used in clinical practise in BMD measurement of osteoporosis. Forearm and axial BMD is the most common site to define in clinical practise. However, the relationship between forearm and axial BMD is not confirmed in RA patients.

Objectives: To compare the forearm (bone mineral density) BMD between lumbar spine and left hip BMD by dual-energy X-ray absorptiometry (DXA), and explore the diagnostic value of the forearm BMD in rheumatoid arthritis (RA) patients.

Methods: In the study, 200 female patients with established RA underwent DXA of the lumbar, left hip and non-superior forearm DXA at the same time. We compared BMD at different sites, and the diagnostic cut-off value of abnormal axial BMD by forearm BMD was explored. Data analysis was performed by independent-sample t test and Pearson's correlation test. The area under the receiver operating characteristic curve (AUC) and calibration of predictions were assessed. Sensitivity and specificity were calculated to determine the correlation between cases of osteoporosis detected by the axial DXA scan and forearm.

Results: (1) The mean age of the 200 female patients was (55.9 ± 13.8) years. Twenty (10.0%) patients had the fragility fracture history. Based on their axial DXA data and fracture history, 30 (15.0%) patients had normal BMD (T score ≥ -1.0), 170 (85.0%) patients had abnormal BMD. The mean forearm BMD was (0.35 ± 0.13) g/cm², and T score was -2.3 ± 1.9 . (2) Compared with abnormal axial BMD group, forearm BMD in normal axial group was significantly decreased [(0.33 ± 0.13) g/cm² vs (0.44 ± 0.06) g/cm², $t = 4.29$, $P < 0.01$], forearm T score was also significantly decreased [(-2.6 ± 1.9) vs (-0.71 ± 0.9) , $t = 4.35$, $P < 0.01$]. T score of the forearm BMD was positively correlated with axial BMD T score, both at lumbar and left

hip respectively ($r = 0.488$, 0.543 , $P < 0.01$). After correction by age, T score of the forearm remained positively correlated with axial T score by partial correlation analysis (Pearson partial vertebral $r = 0.46$, $P < 0.001$; left hip $r = 0.502$, $P < 0.001$). (3) The area under the ROC curve for diagnosis of lumbar and hip osteoporosis were 0.757 (95%CI: 0.638, 0.876) and 0.615 (95%CI: 0.481, 0.749) separately. (4) The sensitivity and specificity for identifying osteoporosis in lumbar were 86.5% and 50.1% respectively when the T-score threshold of forearm was defined as -3.52 ; however, the sensitivity and the specificity for identifying osteoporosis at left hip were 66.2% and 76.2% when T score threshold of forearm was defined as -2.5 .

Conclusion: Our study has confirmed that DXA measurement performed of forearm analysis is capable of screening osteoporosis defined by axial BMD in female RA patients.

REFERENCES

- [1] Siris ES, Adler R, Bilezikian J, et al. The clinical diagnosis of osteoporosis: a position statement from the National Bone Health Alliance Working Group[J]. Osteoporos Int, 2014, 25(5):1439-1443. DOI: 10.1007/s00198-014-2655-z.
- [2] Hangartner TN, Warner S, Braillon P, Jankowski L, Shepherd J. The Official Positions of the International Society for Clinical Densitometry: acquisition of dual-energy X-ray absorptiometry body composition and considerations regarding analysis and repeatability of measures[J]. J Clin Densitom. 2013. 16(4): 520-536. DOI: 10.1016/j.jocd.2013.08.007
- [3] Kilic G, Ozgocmen S. Hand bone mass in rheumatoid arthritis: A review of the literature[J]. World J Orthop. 2015. 6(1): 106-116. DOI: 10.5312/wjo.v6.i1.106

Acknowledgement: none

Disclosure of Interests: None declared

DOI: 10.1136/annrheumdis-2019-eular.631

AB0357

CORRELATION BETWEEN DISEASE ACTIVITY AND MENTAL HEALTH OF RA PATIENTS- ASSESSMENT WITH SMART SYSTEM OF DISEASE MANAGEMENT (SSDM) MOBILE TOOLS

Bin Wu¹, Hua Wei², Jianhong Wu³, Yi Zhao⁴, Li Shengguang⁵, Li Fen⁶, Yuhua Jia⁷, Hui Xiao⁷, Fei Xiao⁷, Hui Song⁸, SSDM Collaboration Group, China.

¹Chongqing Hospital of Traditional Chinese Medicine, Chongqing, China;

²Northern Jiangsu People's Hospital, Yangzhou, China; ³Dazhou Central Hospital,

Dazhou, China; ⁴Xuanwu Hospital, Capital Medical University, Beijing, China,

Beijing, China; ⁵Peking University International Hospital, Beijing, China; ⁶The

Second Xiangya Hospital of Central South University, Changsha, China;

⁷Shanghai Gothic Internet Technology Co., Ltd., Shanghai, China; ⁸Beijing

Jishuitan Hospital, Beijing, China

Background: WHO survey showed that the prevalence of anxiety and depression in Chinese population and Chinese patients with chronic diseases were between 3.1% - 4.2% and 3.1% - 7.3%, respectively. DAS28, HAQ, Hospital Anxiety and Depression Scale (HADS) are commonly used to evaluate RA patients' disease activity, physical function and mental health. All of those evaluations were mainly conducted by health professionals with paper questionnaire previously. SSDM is a novel smart disease management tool that allows patients to do self-evaluation on DAS28, HAQ and HADS by mobile terminal.

Objectives: To estimate the prevalence of anxiety and depression in Chinese patients with RA and to analyze the potential association between disease activity and mental health.

Methods: Under the guidance and training by health professionals, RA patients downloaded SSDM and performed self-evaluation bundle of DAS28, HAQ and HADS with SSDM. DAS28 ≤ 3.2 and HAQ = 0 are criteria for Treat-to-Target (T2T) and normal physical function, HADS score ≥ 8 can be diagnosed with anxiety or depression.

Results: From June 2016 to Jan 2019, 2,635 RA patients (461 male, 2,174 female) with a mean age of 49.94 ± 14.23 (11-88) years and the median disease duration of 25.37 months from 175 hospitals performed bundle self-evaluation for 7,455 times in total. According to the HADS and DAS28 assessment results, the prevalence of anxiety and depression in all patients was 33.30% and 39.04% respectively, which was significantly higher than that in the WHO survey in Chinese population and chronic disease patients. The proportion of patients achieved and failed on T2T was 29% and 71%, respectively. The prevalence of anxiety and