00270 Differences in Bone Mineral Density and Trabecular Bone Score in Hip Fracture Patients With Type 2 Diabetes

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Aims: There is higher fragility fracture risk in type 2 diabetes (DM) patients, despite higher bone mineral density (BMD). Trabecular Bone Score (TBS) has been shown to improve fracture risk predictions in diabetes patients but studies within South East Asian population are limited. We aimed to measure BMD and TBS in patients with fragility fracture to assess for differences in those with and without type 2 DM.

Methodology: Retrospective analysis of subjects admitted with fragility hip fracture over 6 month period was conducted. All BMD scans were performed on Hologic QDR Discovery Wi, USA and analysed with TBS iNsight software (Med-Imaps, France). Patient records were reviewed; results and anthropomorphic data from the time of DXA were collected.

Result: There were 227 fragility hip fracture patients with BMD performed from January to July 2017. 73 (32%) had type 2 DM. There was no difference in age or body mass index (BMI) between DM and non-DM patients (79 vs 79 years; 22.3 vs 21.4 Kg/m2, p=0.247). Mean HbA1c was (7.3 vs 5.9%, p<0.001). There was a greater prevalence of chronic kidney disease (CKD) in the DM vs non-DM group (45.2% vs 32.5% of subjects with eGFR <60ml/min, p=0.022). BMD was significantly higher in the DM than the non-DM group (T-score L-spine -1.4 vs -2.1, p=0.001; femoral neck -3.0 vs -3.2, p=0.034), and mean TBS was similar (1.25 vs 1.23, p=0.255). In a multivariable regression, after adjusting for age, gender, BMI , CKD and race, only higher BMD in L-spine was significantly associated with DM.

Conclusion: In a population with hip fracture, type 2 DM is independently associated with higher L-spine BMD after adjustment for age, gender, weight and eGFR. There was no significant difference in TBS between DM and non-DM patients. Further studies are needed to determine the relationship between DM, BMD, TBS and fractures.