PP-A-06

PREVALENCE AND ASSOCIATED FACTORS OF METABOLIC BONE DISEASE IN MALE PATIENTS WITH TYPE 2 DIABETES MELLITUS

https://doi.org/10.15605/jafes.037.S2.06

Hanis Rabeah Kamaruzaman, Sharifah Faradila Wan Muhamad Hatta, Rohana Abdul Ghani
Department of Internal Medicine, Faculty of Medicine, Universiti Teknologi MARA (UiTM), Sungai Buloh, Malaysia

INTRODUCTION
Osteoporosis is recognized as a prevalent disease in postmenopausal women and elderly individuals. Studies have shown that patients with type 2 diabetes mellitus (T2DM) are at risk for fractures even with normal or high bone mineral density (BMD). Fractures amongst male patients with T2DM have also become more prevalent. We aimed to determine the prevalence and associated factors of metabolic bone disease in males with T2DM.

METHODOLOGY
We conducted a cross-sectional study of male patients with T2DM above age 50 years at Hospital Universiti Teknologi MARA from December 2021 to May 2022. Demographic data and biochemical profiles were obtained from all the participants. BMD of the lumbar spine (L1-L4) and femoral neck were obtained using dual energy X-ray absorptiometry (DEXA).

RESULTS
A total of 150 patients with mean age of 64 ± 7.2 years were included. The prevalence of osteoporosis and osteopenia within the study cohort was 4% and 15.3%, respectively. Patients with metabolic bone disease had numerically higher median age, lower eGFR and lower urine albumin creatinine ratio (UACR), albeit not statistically significant. Multiple linear regression analysis showed a correlation between hip BMD with BMI and with alkaline phosphatase (ALP), whereby a 1 kg/m^2 increase in BMI was correlated with a 0.008 increase in hip BMD (CI 0.003 to 0.012, p=0.001), and a 1 U/L increase in ALP with a 0.001 decrease in hip BMD (CI -0.002 to 0.000, p=0.006). Other factors including age, smoking, eGFR, HbA1c and UACR showed no significant correlation with metabolic bone disease.

CONCLUSION
The prevalence of osteoporosis and osteopenia in our study cohort was low. BMI and serum ALP were found to be significant predictors of BMD levels in male patients with T2DM.