

The association between osteoporosis and microvascular complications among egyptian type 2 diabetic patients

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Objectives: Diabetes mellitus may adversely influence the bone quality through the regulation of bone cells. However, several studies have demonstrated increased risk of fracture in diabetic patients in spite of normal or even higher bone mass density BMD. The aim of this study was to evaluate the association between osteoporosis and micro vascular complications among Egyptian type 2 diabetic patients.

Methods: A prospective study of 78 patients with T2DM was enrolled. They were classified into two groups. Group I (Micro vascular group) included 39 diabetic patients with microvascular complications. Group II (control group) included 39 patients without microvascular complications. Group I was subdivided into 3 subgroups according to the number of microvascular complications. Age, gender, duration of diabetes, hypertension and BMI were documented. FBS, 2hPPBG, foot examination, Fundus examination and Albumin /creatinine ratio were calculated. Dual Energy X-ray Absorptiometry (DEXA) and serum osteocalcin were done to both studied groups.

Results: There was no significant difference between the two

studied groups in the DEXA scan results, the mean least T score of the microvascular group was -1.4 and that of the control group was -1.2 (P value = 0.27). The mean osteocalcin level of the micro vascular group was 35.8, while that of the control group was 13.8 showing significant difference between the two groups (P value = 0.03). The mean osteocalcin level of the microvascular1 subgroup was 17.8, that of the microvascular2 subgroup was 23.04 and that of the microvascular3 subgroup was 45.4 showing highly significant difference between the three subgroups (P value < 0.001).

Conclusion: Osteoporosis diagnosed by elevated level of serum osteocalcin is more prevalent in T2DM with microvascular complications and its prevalence increases with the increased number of these complications. However, DEXA scan is not reliable in diagnosis of osteoporosis.

Speaker Biography

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