Letter to the Editor

Type 2 Diabetes and Risk of Osteoporosis

Madam, Are type 2 diabetics at greater risk of osteoporosis? Which amongst them need to be screened? The relationship between the effect of diabetes mellitus on bone metabolism and bone mineral density (BMD) has remained controversial, with reports of elevated[1,2] decreased[3] or unaltered[4] bone mineral density. More recent research has suggested that underlying insulin resistance may even be protective to bone.[5] What is the BMD of our diabetic population? Is it any different than that of non diabetics? In an attempt to answer this question we examined BMD in 50 diabetic patients and 50 controls. Both the cases and controls were over the age of 45 years. The groups were enrolled between October 2002 and January 2003. Information was gathered regarding demographics, diabetic status and duration, menopausal status in women, previous history of fractures or osteoporosis, level of physical activity and smoking status. Those with history of glucocorticoid use and use of HRT and dietary calcium supplementations were excluded. BMI (body mass index) and WHR (waist hip ratios) were recorded and BMD was calculated by the Sahara clinical bone sonometer. This measures the calcaneal (heel) bone mineral density in g/cm^2 by ultrasound parameters. The output was expressed as a T score and as an estimate of BMD in g/cm^2 of the calcaneus as measured by DEXA. The two groups were matched in terms of age, male:female ratio, BMI and WHR. Mean duration of diabetes was 11.1 years in the study group. Women were matched with respect to menopausal status. Previous history fracture was greater in the diabetic group when compared with controls (18% and 10% respectively) though not statistically significant. We found that our diabetic population had higher BMD (0.461 ± 0.102 g/cm^2 vs 0.434 ± 0.1186 g/cm and t-scores -0.972 ± 0.9852 vs -1.27 ± 1.066). And there was a significantly higher prevalence of osteopenia and osteoporosis in the control population ($p<0.025$). In our small group of patients, those with type 2 diabetes had better BMD than controls. We suggest that larger well designed studies are conducted to examine and validate this finding. Is the improved BMD an effect of oral antidiabtic agents, exogenous insulin or underlying insulin resistance will require further investigation.

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