ORIGINAL ARTICLE

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Factors affecting bone mineral density in renal transplant patients

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Bone disease is a major cause of morbidity in end stage renal failure. This study is aimed to assess the prevalence of abnormal bone mineral density (BMD), measured by dual photon absorptiometry (DPA) in the renal transplant population. Subjects consisted of 110 patients followed up after transplantation for between 1 and 17 years. Variables analyzed included age, sex, ethic origin, years and type of dialysis prior to transplantation, date of transplant, total steroid dose, number of rejection episodes, use of Cyclosporin, and biochemical/hormonal variables such as serum calcium, phosphate, magnesium, alkaline phosphatase, creatinine, FSH, LH and PTH.

Analysis of variance and chi square tests were performed to assess the differences between groups and Pearson correlation coefficients were obtained. The total steroid dose, year of birth, PTH level and duration since transplantation were correlated with BMD ($p < 0.05$). Despite the statistical significance, the degree of variability indicated by each of these variables was low revealed by multiple regression analysis. We conclude that although steroid therapy is a major contributor to the increase in osteoporosis in renal transplant patients, about two thirds of the parameters that can influence bone metabolism remain unexplained.

Key words: bone mineral density (BMD), renal disease, osteopenia, steroid therapy, renal transplantation