ABSTRACT

Aim

This study was conducted to determine the frequency and pattern of CKD-MBD among maintenance hemodialysis patients at Aminu Kano teaching hospital.

Methods

A total of 45 maintenance hemodialysis patients attending Alhassan Dantata hemodialysis center were selected. All patients agreed to participate in the study. Various clinical symptoms and signs were assessed among the study subjects in addition to determination of various biochemical parameters that included serum calcium, phosphate, albumin, alkaline phosphatase, hemoglobin, urea, electrolytes and creatinine. Intact parathyroid hormone and 25 hydroxycholecalciferol were assayed in all subjects. X-rays of the hand and pelvis was also done on all patients. In addition 45 aged and sex matched normal controls were recruited for the determination of reference value for PTH and vitamin D3. Based on the serum intact PTH, the patients were classified as having High turnover bone disease (PTH >255pg/ml), low turnover bone disease (<85pg/ml) or normal bone turnover (85-255pg/ml).

Results

The overall prevalence of CKD-MBD was found to be 71.1% with hyperparathyroidism been the commonest accounting for 46.4% and low turnover bone disease accounting for 24.7%. Normal iPTH was detected in 28.9% of the study subjects. There was no statistically significant relationship between radiological features and various forms of CKD-MBD. Multivariate
regression analysis showed that older age (P<0.05), diabetes mellitus (p<0.05), hypocalcaemia (p<0.05) and hyperphosphatemia (P= 0.002).

**Conclusion**

This cross sectional study albeit in small number of Hemodialysis patients found an overall prevalence of CKD-MBD to be 71.1% with HTBD consisting 46.4% and LTBD consisting 24.7%. Advanced age, diabetic status, less than two session of hemodialysis per week, acidosis and hyperkalemia were significantly associated with CKD-MBD.