

ABSTRACT

Background:

Chronic kidney disease is a progressive disorder with involvement of various organs. CKD MBD is a systemic disorder of mineral and bone metabolism which is manifested by either one or a combination of abnormalities of calcium, phosphorous, PTH or Vit D metabolism. This results in changes in bone mineralisation or growth and other complications like vascular or other soft tissue calcification. The hormone fibroblast growth factor (FGF23) is derived from bone and its important function in controlling phosphorous levels. Elevation of serum levels of FGF23 is one of the possible causes of left ventricular hypertrophy and diastolic dysfunction. This leads to various morbidities and early mortalities in these patients. This study was done to observe calcium, phosphorous, iPTH and especially FGF23 and to note any role of FGF23 in causing cardiac involvement in these patients.

Methods:

Ethical committee clearance was obtained. After taking **informed** consent, 50 patients were enrolled in the study between September 2017 and February 2018. All subjects were in the group 20-70 years. Cardiac systolic function was assessed by echo. Mineral bone disorder was assessed by Serum FGF23, calcium, phosphorous, parathyroid hormone, in all patient. The data was analysed by SPSS VERSION 20.0

Results:

In our study found that among 50 study participants 88 percent patients had hyperphosphataemia, 64 percent had hypocalcemia, 46 percent had elevated parathormone and 74 percent had elevated FGF23. All the patients had biochemical evidence of mineral bone disorder. In them 20 percent had left ventricular hypertrophy, and left ventricular diastolic dysfunction. Reduced ejection was noted in 10 percent of patients. Positive correlation was noted with level of phosphorous and FGF23. The left ventricular hypertrophy was also noted in those with elevated FGF23 and it was statistically significant. Statistically there was no correlation with the level of calcium, ipth or reduced ejection fraction in relation to FGF23.

Conclusion:

CKD MBD is common in patients with ckd especially stage 5. They are also prone for cardiovascular manifestation. FGF23 levels were high in those with elevated phosphorous, left ventricular hypertrophy and left ventricular dysfunction. Levels of Calcium, ipth and ejection fraction did not correlate with FGF23. Larger population in the study would have helped in actual identification of these patients and also helped in the knowing the predominant role of FGF23.

Keyword: CKD, ckd mbd, FGF23, cardiovascular involvement