

TO STUDY THE CALCIUM AND PHOSPHORUS METABOLISM IN PATIENTS OF SICKLE CELL NEPHROPATHY FROM TRIBAL AREA OF CENTRAL INDIA

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To study calcium and phosphorus metabolism in patients of sickle cell nephropathy, presenting to a Tertiary care hospital in a series of patients with sickle-cell anaemia, serum phosphate and magnesium concentrations were elevated. Serum calcium concentrations were normal. Urinary excretion of calcium was decreased. The maximum tubular reabsorption of phosphate per litre of glomerular filtrate (TmP/GFR) was significantly increased in these patients. The increase in phosphate reabsorption explains the elevated serum phosphate observed in these patients. 45 patients with Sickle cell nephropathy admitted in Nephrology Unit, Department of Medicine, Pt.J.N.M. Medical College, Raipur were studied. All patients were subjected to Renal Function Tests, serum electrolytes including Calcium and phosphorus and all other relevant routine investigations.

RESULT

A total of 45 patients were studied of which 13 were males and 32 females. Fig.1

The mean age of the patients was 26.48 ± 11.6 years.

Male to female ratio was 1: 2.462.

Mean serum Calcium level was 9.404 ± 0.562 while mean serum Phosphorus was 4.348 ± 1.8109 .

Mean Calcium Phosphorus product was 40.76 ± 18.09 and it was ≥ 55 in 11% cases out of which 80% were females and 20% were males.

Among patients with Calcium Phosphorus product ≥ 55 , 20% patient had aortic valve calcification compared to 2.5% in those with Calcium Phosphorus product < 55 .

In patients with Proteinuria ≥ 1 mean Calcium Phosphorus product was 39.669 ± 20.19 compared to 41.67 ± 15.13 in patients with Proteinuria < 1 gm/day.

Also Proteinuria ≥ 1 was present in 40% while Proteinuria < 1 gm/24hrs was 60% among patients with Calcium phosphorus product more than 55.

CONCLUSION

- Females had more commonly Calcium phosphorus product more than 55 as compared to males.
- 11% patients had Calcium phosphorus product more than 55.
- Aortic valve calcification is the most common cardiac abnormality seen.
- Itching and other skin manifestations were much more common in patients with Calcium phosphorus product more than 55.