

Phosphorus Partition in Blood and Serum, Serum Calcium and Plasma Phosphatase during Healing of Late Rickets.

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The partition of phosphorus in whole blood and serum, the serum calcium and plasma phosphatase have been studied in 2 patients during the slow healing of late rickets of the low phosphorus type. The evidence obtained indicates that the organic acid-soluble (ester) phosphorus of corpuscles is markedly decreased in active late rickets. The lowest value observed was 41.5 mg. per 100 cc. (normal for the age, 66 mg.). This fraction of the blood phosphorus responds very quickly when antirachitic treatment is given, and may reach the normal value before any definite change in serum inorganic phosphorus is observed. The intake of vitamin D by one patient was apparently insufficient to maintain the increased level of corpuscle ester phosphorus. Relatively much greater increases in vitamin D intake were necessary to induce a second rise, and the normal level was not attained until after the serum inorganic phosphorus had been normal for a period of about 4 weeks.

The plasma phosphatase values of both patients were 5 to 6 times the normal at the beginning of treatment. The amounts decreased during healing but were still high when roentgenological healing was complete. In one of the subjects, the phosphatase remained at double the normal value for more than a year after complete healing occurred.