Erythrocyte Calcium Content and Cell Deformability in Chronic Renal Failure

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Dear Sir,

References

I would like to make some comments about the recent letter of Udden [1] concerning the possible relation between the erythrocyte calcium content and cell deformability in chronic renal failure.

A convincing experimental evidence that parathyroid hormone promotes the entry of calcium into erythrocytes has already been provided by Bogin et al. [2]. In a recent study [3], we reported impaired erythrocyte deformability in chronic hemodialysis patients which was not ameliorated by an effective treatment of secondary hyperparathyroidism by either pharmacological means or surgical removal. Unfortunately, the measurement of the erythrocyte calcium content in these patients was not available to us so that no definite conclusions could be drawn. Yet, Gura et al. [4] had previously shown an increased platelet calcium content in chronic uremia and its correction by treatment with $1\alpha(\text{OH})$ vitamin D. If the same could be demonstrated for the erythrocyte calcium, too, and since our data have shown that treatment with $1,25(\text{OH})_2$ vitamin D is not associated with changes in erythrocyte deformability, it might be assumed that the intracellular calcium content is probably not a major determinant of erythrocyte deformability in chronic renal failure.

Udden MM: Erythrocyte calcium in chronic renal failure. Nephron 1989;51:573-574.

Bogin E, Massry SG, Lévi J, et al: Effect of parathyroid hormone on osmotic fragility of human erythrocytes. J Clin Invest 1982;69:1017-1025.

Docci D, Delvecchio C, Salvi P, et al: Osmotic fragility of erythrocytes, cell deformability and secondary hyperparathyroidism in uremic patients on maintenance hemodialysis. Clin Nephrol 1985;23:68-73.

Gura V, Creter D, Lévi J: Elevated thrombocyte calcium content in uremia and its correction by $1\text{-}\alpha(\text{OH})$ vitamin D treatment. Nephron 1982;30:237-239.