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Comparison of the effect of erythropoietin and erythropoietin with oral solution of carnitine in treatment of anemia in hemodialysis patients

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Background and Aims: Anemia usually is present in patients with renal failure. It is now that the most important factor causing renal anemia is the decrease in erythropoietin secretion by the diseased kidney. Another causal factor that may contribute to the etiology of renal anemia is carnitine deficiency, which usually is observed in dialyzed patients. The aim of this study was to demonstrate L-camitine treatment effect on the anemia in hemodialysis patients under recombinant human erythropoietin (r-HuEPO) therapy.
Methods: Thirty-six patients with end-stage renal disease were studied in two groups. Control group consist of twelve women and nine men who were received 4000 IU/week r-HuEPO for three month with hemoglobin below 12 g/dl. In second group fifteen patients with hemoglobine fewer than 12 were received 4000 IU/week r-HuEPO and oral solution of carnitine(2g/week) for three month.
Results: In control group there wasn't significant increase in hemoglobin and hematocrit level in patients. But in carnitine group there was a significant increase in hemoglobine level (1.95 g/dl, Pv<0.05) although there was not increase in hematocrit.
Conclusions: It can be concluded that regular L-camitine supplementation to patients undergoing chronic hemodialysis could increase hemoglobine level and a hypothetical relationship between camitine deficiency and r-HuEPO resistance may be suggested.

Keywords: L-Carnitine; Anemia; Hemodialysis; Erythropoietin