

Copper and Zinc Serum Level in Patients Receiving Hemodialysis

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Abstract

Decreased kidney function can accumulate trace elements. Increased trace elements can have toxic features. On the other hand, studies are showing that concentration of some trace elements could be decreased in chronic kidney disease patients as well. Because these patients are at risk for alterations of trace elements, we measured serum level of zinc and copper trace elements in hemodialysis patients and compare it with the control group. We analyzed the trace elements' copper and zinc concentration in the whole blood of 52 ESRD patients who were treated with hemodialysis as case group and also of 52 age and sex matched healthy people as control group. Whole blood trace element concentration was determined by atomic absorption spectrometry. The serum concentrations of zinc and copper were significantly lower in case group compared to control group. The serum concentration of zinc and copper trace elements in end-stage renal failure patients is disturbed. Due to the discrepancy in findings of different studies, further studies in large scale are recommended to determine the serum concentration of trace elements in these patients.