Effects of aging and duration of dialysis period on levels of blood trace element concentration

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Abstract

In hemodialysis patients, the increase in elderly people and prolongation of duration of dialysis period are conspicuous.

The purpose of this study was to examine the effects of aging and hemodialysis period on levels of blood trace elements concentration.

The concentration of blood iron, copper, zinc, selenium, aluminum, lead, mercury and strontium in blood in 70 control subjects and 304 hemodialysis patients were measured by PIXE method.

In hemodialysis patients, blood iron, copper, zinc and selenium concentrations were significantly lower than control subjects and aluminum concentration was significantly higher than control subjects. We examined the effect of duration of dialysis period but no difference on each blood trace metal concentrations in hemodialysis patients.

When examining about aging, in elderly hemodialysis patients, blood zinc and selenium concentrations were lower, and blood aluminum concentration was higher than normal subjects.