

ORIGINAL ARTICLE

Relationship between Serum Zinc Concentration and Neutrophil Phagocytic Function in Liver Cirrhosis Patients

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ABSTRACT

Background: Liver cirrhosis patients are susceptible to infection. The incidence of infections depends on several factors. One of the factors is decreasing immune system i.e. the deterioration of neutrophil phagocytic function. The deterioration of neutrophil phagocytic function is caused by complement deficiency, bowel endotoxemia, decreasing tuftsin activity, and zinc deficiency. Zinc deficiency is caused by impairment of bowel absorption and increasing zinc excretion by urine. Zinc influences the specific and non specific immune system.

Aim: To determine whether there is relationship between serum zinc concentration with neutrophil phagocytic function in liver cirrhosis patients.

Subject & method: This was a cross-sectional study from August 2004 until September 2005. Study population are ambulatory liver cirrhosis patients and in patient liver cirrhosis. Correlation analysis was done to asses relationship between zinc concentration and neutrophil phagocytic function, which used Nitro Blue Tetrazolium (NBT) dye reduction test.

Result: There were 58 subjects fulfilled the criteria. The mean of serum zinc concentration was 114 mmol/L. The mean of NBT was $3.4 \pm 3.1\%$. The coefficient correlation between zinc serum concentration and neutrophil phagocytic function was 0.13, $p = 0.58$.

Conclusion: There was a weak and non significant positive correlation between serum zinc concentration with neutrophil phagocytic function in liver cirrhosis patients.

Keywords: zinc, neutrophil phagocytic function, liver cirrhosis