

Assessing the Serum Levels of Ferritin and Selenium in three Important Infections of Childhood, Compared to a Control Group

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OBJECTIVES

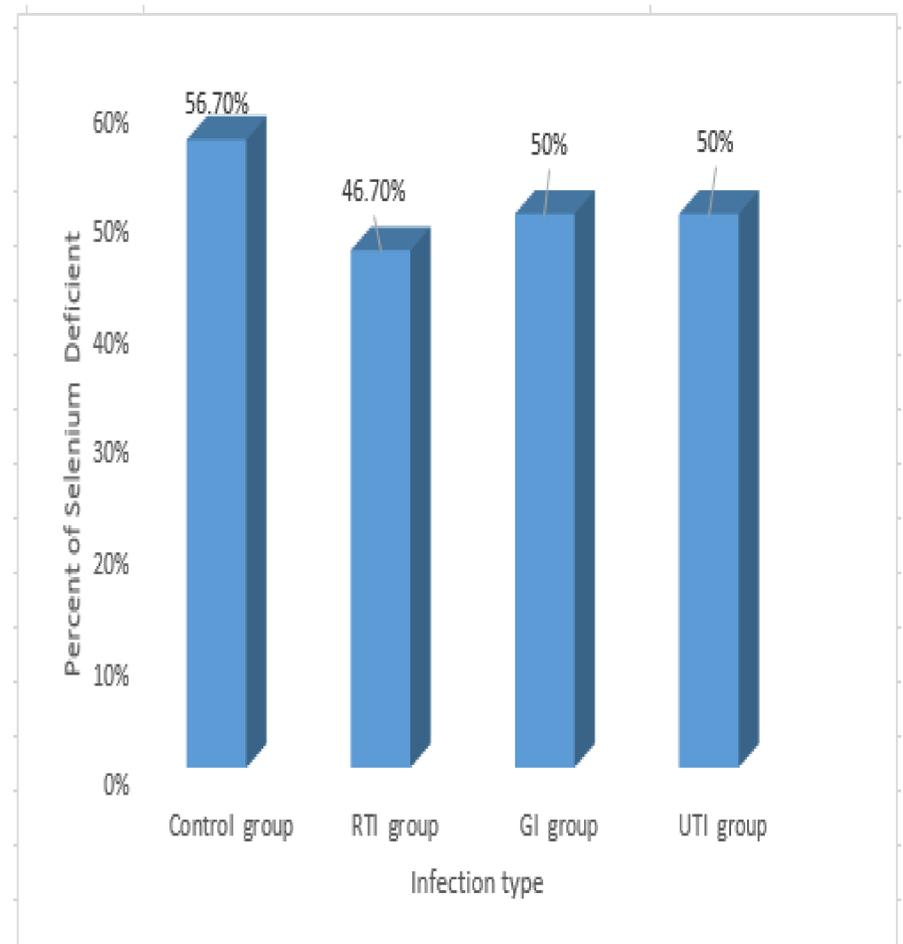
The purpose of this study is to evaluate serum levels of selenium and ferritin in acute infections of childhood. Regarding the large incidence and vital complications of infections in children, studying the effect of any predisposing factor to these diseases is fundamental. Therefore, we chose three of the most principal infections in childhood, including RTI, UTI, and GI to assess the probable effect of selenium and iron deficiency on these infections.

METHODS

Patients aged 2-15, hospitalized from autumn 2010-2011 in infectious ward of Rasoul-e-Akram hospital were recruited to the study. Patients with documented diagnosis of GI, RTI, UTI were case groups, who were compared to one control group, including patients hospitalized in the same hospital in surgery ward without any active infection. Blood samples were gathered from all patients and ferritin and selenium serum levels were measured in serum specimens. Diagnosis of the three infections was made by a unique infectious specialist.

RESULTS

The mean and standard deviation of serum selenium concentration of GI, RTI, UTI and control groups were $64.70 \pm 21.43 \mu\text{g/l}$, $61.60 \pm 19.25 \mu\text{g/l}$, $66.37 \pm 22.11 \mu\text{g/l}$ and $62.20 \pm 22.08 \mu\text{g/l}$, respectively without significant differences in serum selenium levels between these groups ($P = 0.608$). The median of serum ferritin levels in GI, RTI, UTI and control groups were 60.05 (48.82-78.01), 62.00 (49.07-79.35), 60.60 (51.78-79.52) and 58.75 (45.32-76.72), respectively. The difference in ferritin levels between these groups was statistically significant ($P < 0.001$). Compared with the control, the RTI and GI groups had significantly higher levels ($P < 0.001$); however, the UTI group was not statistically different from the control ($P = 0.098$).



CONCLUSIONS

None of the children had ferritin constrictions below 12. As far as selenium and ferritin deficiency is an important issue in developing countries, it would be valuable to assess the role of micronutrients in infectious diseases, as we may be able to prevent such fatal infections by micronutrient supplementations.

References

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