

Abstract

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Serum zinc in small children with coeliac disease.

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OBJECTIVE: In coeliac disease (CD) there is a gluten-induced small bowel enteropathy leading to malabsorption of various nutrients, vitamins and trace elements. Low levels of serum zinc have been reported in adults with untreated CD.

METHODS: In the present study we related the serum concentration of zinc to the morphology of the small bowel mucosa in 58 children, all under 4 years of age and under investigation for coeliac disease.

RESULTS: The mean serum concentration of zinc (mean +/- SD; $\mu\text{mol/L}$) was significantly lower in children with untreated CD (9.7 ± 2.0) ($n = 11$) compared to non-coeliac children without enteropathy (15.1 ± 2.3) ($n = 16$) ($p < 0.001$), coeliac children on a gluten-free diet without enteropathy (14.2 ± 1.6) ($n = 14$) ($p < 0.001$), coeliac children on gluten challenge with enteropathy (14.1 ± 2.1) ($n = 12$) ($p < 0.001$) and coeliac children on gluten challenge without enteropathy (13.8 ± 1.9) ($n = 6$) ($p < 0.005$).

CONCLUSION: Serum zinc concentration is decreased in untreated coeliac children with enteropathy and normalizes on gluten-free diet. A low serum zinc value in a child being investigated for possible CD on clinical grounds can thus be used as a complementary marker for enteropathy indicating further investigation with small bowel biopsy. The hypothetical role of zinc in the pathogenesis of CD is discussed.

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