Demonstration of the effectiveness of zinc in diarrhoea of children living in Switzerland

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Abstract

Objectives: The effectiveness of zinc in childhood diarrhoea has been demonstrated in developing countries. We wanted to determine whether the use of zinc might be beneficial in the Swiss paediatric population.

Methods: We designed a double-blinded randomized clinical trial of zinc (10 or 20 mg of zinc sulphate for 2–5 month-old or 6–59 month-old children, respectively, during 10 days) vs. placebo in otherwise healthy children aged 2 months to 5 years who presented with acute diarrhoea (i.e. ≥3 stools/day for less than 72 h).

Results: Eighty-seven patients (median age 14 months; range 3.1–58.3) were analysed in an intention-to-treat approach. Forty-two patients took zinc and 45 placebo. There was no difference in the duration nor in the frequency of diarrhoea, but only 5 % of the zinc group still had diarrhoea at 120 h of treatment compared to 20 % in the placebo group ($P = 0.05$). Thirty-one patients (13 zinc and 18 placebo) were available for per-protocol analyses. The median (IQR) duration of diarrhoea in zinc-treated patients was 47.5 h (18.3–72) and differed significantly from the placebo group (median 76.3; IQR 52.8–137) ($P = 0.03$). The frequency of diarrhoea was also lower in the zinc group ($P = 0.02$).

Conclusions: Zinc treatment decreases the frequency and severity of diarrhoea in children aged 2 months to 5 years living in Switzerland. However, the intention-to-treat analysis reveals compliance issues that question the proper duration of treatment and the choice of optimal pharmaceutical formulation.

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