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The therapeutic effect of zinc sulfate in term neonatal hyperbilirubinemia

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Objective: Zinc is one of the essential elements in neonatal growth, protein synthesis, and regulation of inhibitory and stimulatory synapses of the brain. It has been shown to lower bilirubin levels by inhibition of the normal enterohepatic cycling of unconjugated bilirubin. The aim of the study was a therapeutic effect of oral zinc sulfate in neonatal jaundice.

Method: In a clinical trial 70 term neonates with a total serum bilirubin (TSB) levels ≥ 20 mg/dl were enrolled. Thirty-four were treated with phototherapy and zinc (10 mg/day, single dose) as a case while the remaining as control received phototherapy plus placebo. TSB levels were measured at entrance, 12, 24 and 48 hours after intervention and compared together.

Result: The mean TSB levels were significantly lower in the zinc group after 12, 24 and 48 hours ($p = 0.038, 0.005, 0.001$, respectively). Duration of phototherapy in the case and control groups were 2.03 ± 0.174 and 2.33 ± 0.478 days, respectively, with significantly lesser in the case group ($p = 0.002$).

Conclusion: This study showed that oral zinc sulfate in a single dose of 10 mg reduced the TSB levels and duration of phototherapy.

Biography

Ashraf Mohammadzadeh is an assistant professor Neonatal Research Center, Imam Reza Hospital, Faculty of Medicine, Mashhad University of Medical Sciences, Mashhad, Iran. He is a vice chancellor of Neonatal Research Center in this university since 2006 and consultant neonatologist of neonatal intensive care unit since 1992 up to now. He has published 66 papers locally and in international journals, 19 books, 71 supervision of thesis in general medicine, pediatric, and neonatology, 120 participation in national and international congress with lecture and poster presentation.

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