



Comparison of Zinc Level between Neonates with Jaundice and Healthy Neonates

*Boskabadi H¹, Maamouri Gh¹, Mohsen Zadeh H¹, Shakeri MT², Ghayour Mobarhan M³

¹Neonatal Research Center, Department of Pediatrics, Mashhad University of Medical Sciences, Mashhad, Iran.

²Community Medicine and Public Health, Faculty of Medicine, Mashhad University of Medical Sciences, Mashhad, Iran.

³Biochemistry and Nutrition Research Center and Cardiovascular Research Center, Faculty of Medicine, Mashhad University of Medical Sciences, Mashhad, Iran.

Introduction:

Neonatal jaundice is the most common cause of hospitalization. Animal study demonstrated a decrease in serum bilirubin level after zinc treatment in hyperbilirubinemic rats. The objective of this study was the investigation of serum zinc level in the neonates with idiopathic .

Materials and Methods:

A case-control study was undertaken on 263 neonates in a neonatal intensive care unit and obstetrics department in Ghaem Hospital, Mashhad, Iran. Healthy Infants with gestational age more than 35 weeks or with idiopathic jaundice were included to the study. Serum levels of zinc and bilirubin were compared for 114 neonates without jaundice (control group) and 149 neonates with jaundice (case group) using atomic absorption spectrometry. The maternal and neonatal information were recorded. Data were analyzed using SPSS software, spearman correlation coefficient, and chi-square and Mann-Whitney tests.

Results:

The mean value of the zinc serum level was 1024.74 ± 245.17 $\mu\text{mol/L}$ in the control group and 841.42 ± 211.99 $\mu\text{mol/L}$ in the case group ($P < 0.001$). There was no significant correlation between zinc level and factors such as maternal age, multi parity, Mode of delivery, hospitalization and gender of infants ($P > 0.05$). Also, there was no significant correlation between serum levels of Na, BUN, Cr, WBC, platelet, HTC and zinc ($P > 0.05$).

Conclusion:

The level of serum zinc in the neonates with hyperbilirubinemia jaundice was lower than those without jaundice. It seems that zinc has a protective effect. However, more studies are needed for better decision.

Keywords: Jaundice, Zinc, Neonate, Hyperbilirubinemia.

Poster Presentation, N15

***Corresponding Author:**

Hassan Boskabadi, MD, Associate Professor, Neonatologist, Mashhad University of Medical Sciences (MUMS), Mashhad, Iran. Email: Boskabadih@mums.ac.ir