

Received Date: 20-11-2022 | Accepted Date: 25-11-2022 | Published Date: 30-07-2023

Can zinc supplementation in addition to standard of care reduce mortality and improve neurodevelopmental outcomes in neonatal sepsis?

Vishnu Bhat

Mission's research foundation-DU, India

Background: Zinc supplementation has been found to be beneficial in reducing the severity of diarrhea and respiratory infection among children. We wanted to find out whether Zinc supplementation in addition to the standard of care among neonates with sepsis will reduce mortality and improve later neurodevelopmental outcomes.

Methods: We randomized neonates with sepsis into two treatment groups. The study group received 3 mg/Kg twice a day of Zinc sulfate orally in addition to standard supportive care and antibiotics. The control group did not receive Zinc but only antibiotics with supportive care. We assessed the serum levels of Zinc and inflammatory mediators at recruitment and 10 days later. Mortality and neurodevelopmental outcome were compared at discharge and one year of age.

Results: Zinc levels were significantly higher and inflammatory mediators were significantly altered in the Zinc group after 10 days of treatment. The mortality in the Zinc group was 5.5% compared to 13.8% in the control arm ($p=0.04$). The mean survival time was significantly higher (34 days vs 22 days) in the Zinc group. Neurological assessment at 28 days using Hammersmith scale showed abnormal neurological status significantly lower in the Zinc group (4 vs 14 and $p<0.02$). Infants on follow up assessed using DASII (Developmental assessment scale for Indian infants) scale showed better neurodevelopmental outcome among the infants in the Zinc group. The difference was significant in the motor

development (89.4 Vs 84.9 and $p<0.05$).

Conclusion: Supplementation of Zinc 3 mg/Kg twice a day along with antibiotics reduces mortality and improves neurodevelopmental outcome among infants with neonatal sepsis.

Recent Publication

1. Bethou, Adhisivam, and Ballambattu Vishnu Bhat. "Neonatal Sepsis-Newer Insights." *Indian journal of pediatrics* vol. 89,3 (2022): 267-273. doi:10.1007/s12098-021-03852-z
2. Bhat, B Vishnu, and B Adhisivam. "Hand Washing Practices in Neonatal Intensive Care Units." *Indian pediatrics* vol. 52,5 (2015): 382-3.
3. Bhat, B Vishnu, and Sambandam Ravikumar. "Challenges in Neonatal COVID-19 Infection." *Indian journal of pediatrics* vol. 87,8 (2020): 577-578. doi:10.1007/s12098-020-03379-9

Biography

Vishnu Bhat is an accomplished physician specializing in Pediatrics and Neonatology at Aarupadaiveedu Medical College & Hospital, Vinayaka Mission's Research Foundation-DU, in Puducherry, India. With a profound commitment to child healthcare, Dr. Bhat has established himself as a trusted expert in his field. His vast knowledge and experience enable him to provide comprehensive medical care to infants and children. Driven by a deep sense of compassion, he strives to ensure the well-being of his young patients. Dr. Bhat's contributions to the field of Pediatrics and Neonatology have been widely recognized, making him an invaluable asset to the medical community and a source of hope for countless families.

drvishnubhat@yahoo.com