

## عنوان مقاله:

The Effect of Zinc Supplementation on the Treatment of Neonatal Sepsis: A Randomized Controlled Trial

## محل انتشار:

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## خلاصه مقاله:

Background: Zinc plays an important role in some metabolic and signaling pathways of the immune system and may improve the signs and symptoms of neonatal sepsis. This study aimed to evaluate the efficacy of zinc supplementation in neonatal sepsis. Methods: This randomized controlled trial included 50 neonates with sepsis admitted to Bandar Abbas Children's hospital, Iran, from 2018 to 2019. Patients were randomly allocated into two groups: the zinc group received standard antibiotics plus 1 mg/kg zinc gluconate twice a day for 7 days starting within the first 24 hours after admission, while the control group only received antibiotics. Complete blood count (CBC) with differential, C-reactive protein (CRP), and platelets were measured on the first day of admission. Blood sampling was done again after 48 hours based on the patients' condition. Patients' information such as age, sex, gestational age, birth weight, time to the improvement of clinical and laboratory findings, hospital length of stay, mortality, change in the antibiotic regimen, and signs of sepsis were noted. Results: The two study groups were similar concerning age and sex. Birth weight, gestational age, duration of hospital stay, time to the improvement of clinical findings, baseline CRP, and change in the antibiotic regimen were comparable in both groups ( $P > 0.05$ ). The time to the improvement of laboratory findings was significantly lower with zinc supplementation compared with controls ( $6.56 \pm 2.95$  vs.  $8.36 \pm 3.34$  days,  $P = 0.022$ ). Further, final CRP significantly decreased compared to baseline CRP in both groups ( $P < 0.001$ ); however, this reduction was greater in the zinc group (final CRP:  $3.60 \pm 1.87$  vs.  $5.12 \pm 2.11$  mg/L,  $P = 0.015$ ). Moreover, no mortality was reported in either of the groups. Conclusion: Zinc supplementation had no effect on hospital length of stay in neonatal sepsis; however, it reduced the time to the improvement of laboratory findings, especially CRP.

## کلمات کلیدی:

Neonatal sepsis, Zinc supplementation, C-reactive protein

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