The Effect of Zinc Management of Patients with Femoral Fractures

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Abstract:

Background: This study explores the impact of zinc management on nutritional status, hospital stay length, and complications in patients with femoral neck fractures.

Methods: Sixty-one patients from 2021 who did not receive zinc monitoring or supplementation formed the non-management group. In 2023, 60 patients received zinc testing, and 59 were found deficient and supplemented, forming the zinc management group (zinc levels: 53.0 ± 14.3 µg/dL at admission; 92.7 ± 21.3 µg/dL after three weeks). Outcomes measured included albumin change (ΔAlb), zinc levels, hospital stay length, and complications.

Results: Patients with greater ΔAlb showed significantly shorter hospital stays ($p = 0.002$). Although zinc management showed a trend toward improved nutritional outcomes compared to non-management, the interaction effect was not statistically significant ($p = 0.161$). Zinc supplementation reduced hospital stays by 3.7 days, but this was not significant ($p = 0.402$). Complications such as urinary tract infections and aspiration pneumonia extended stays by 10.9 days ($p = 0.003$).

Conclusion: Zinc management may support improved albumin levels and nutritional status. However, further research with larger samples is needed to clarify the role of zinc management and its interactions with other factors on patient outcomes.