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The role of vitamin D levels in early onset sepsis development in term neonates

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Introduction: Newborns are more susceptible to infections as both innate and adaptive immune systems are not entirely developed. Vitamin D is a fat-soluble steroid hormone that contributes to the maintenance of normal calcium homeostasis and skeletal mineralization. Vitamin D also has immunomodulatory effects on immune function. It was suggested that it might have a role in the optimal functioning of the innate immune system by inducing antimicrobial peptides in epithelial cells, neutrophils and macrophages.

Aim of the Work: The aim of this study was to determine the role of vitamin D levels as diagnostic predictor of early onset sepsis development in term neonates.

Patients and Methods: Forty term infants with clinical and laboratory findings of EOS (study group) and 40 healthy infants with no signs of clinical/laboratory infection (control group) were enrolled. Blood was drawn at the time of admission during the first 3 postnatal days of life in both groups for measurement of 25-hydroxyvitamin D (25-OHD) levels.

Result: Neonatal 25-OHD levels ($11.59 \pm 4.66\text{ng ml}^{-1}$) in the study group were significantly lower than those of the control group ($27.35 \pm 3.45\text{ng ml}^{-1}$, $P < 0.001$). Severe vitamin D deficiency was significantly more common in the sepsis group.

Conclusion: Lower neonatal 25-OHD levels are associated with EOS. These data suggest that adequate vitamin D supplementation during pregnancy may be helpful to prevent EOS in term neonates.

Biography

Ahmed Shara has completed his PhD at the age of 25 years from Tanta University, Egypt and postdoctoral studies from Stanford University School of Medicine. He is the director of a premier Bio-Soft service organization. He has published more than 25 papers in reputed journals and has been serving as an editorial board member of repute. (Up to 100 words).

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