

Second Paper

Title: The relation between neonatal vitamin D deficiency and early onset sepsis in term infants.

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Abstract:

Vitamin D had an important influence on the innate and adaptive immune system. 25-hydroxyvitamin D (25(OH)D) serum level is known to be the best predictor of vitamin D level. **Objectives:** To determine the relationship between neonatal 25(OH)D level in early-onset sepsis (EOS) and its severity in term infants. **Methods:** This case-control study was performed on 50 septic neonates admitted to Fayoum University Hospitals' Neonatal Intensive Care Unit as a case group, and 50 healthy neonates as a control group. Each subject was subjected to a detailed history and meticulous general & systemic examinations. Laboratory assessment in form of complete blood count with differential counts, C-reactive protein (CRP), blood culture, and serum 25(OH)D level in infants was done within 72 hours of life. **Results:** 25(OH)D levels in cases (4.91 ng/ml) were significantly lowered than those in controls (13.0 ng/ml) ($p < 0.0001$). The number and percentage of mothers with no history of vitamin D supplements throughout pregnancy was statistically significantly higher in cases (n=48;96.0%) than in controls (n=42;84.0%; $p=0.046$). Blood culture was positive in 34 neonates and negative in 16 neonates in the case group. Twenty-eight percent of the isolated organisms were Gram-negative bacilli. Vitamin D mean level was lowered in the case with positive blood culture compared to negative blood culture (4.8ng/ml vs. 5.02 ng/ml) respectively with no statistical significance ($p=0.876$). **Conclusions:** Early onset sepsis in term infant occurs more frequently in the presence of Vit-D deficiency.