

Serum Level of Antithrombin III (ATIII) Could Serve as a Prognostic Biomarker in Neonatal Sepsis

Background: Neonatal sepsis syndrome continues to have a high morbidity and mortality rate despite the progress in neonatal intensive care. There is no single diagnostic test which can reliably diagnose sepsis in the newborn, beside blood culture. Antithrombin III may be one promising single marker for sepsis syndrome diagnosis and prognosis.

Methods: We quantitated antithrombin III (ATIII) in neonates with sepsis syndrome and compared these levels to healthy controls. Results: ATIII levels were significantly lower in sepsis syndrome neonates (23.05 ± 3.66) compared to controls (35.50 ± 2.50), ($p < 0.001$). ROC curve for ATIII displayed area under the curve of 0.973, cutoff $>30\text{mg/dL}$, a positive predictive value 90.47 and negative predictive value 96.55.

Conclusion: Antithrombin III is lower in sepsis syndrome neonates and may be a useful biomarker in neonatal sepsis.