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ASSOCIATION OF PROTHROMBIN GENE MUTATION WITH SEPSIS IN A PRETERM WHO HAS MULTIPLE INTRACARDIAC THROMBI

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Introduction: There are few reports relating the presence of intracardiac thrombi in neonates without cardiac abnormalities. We report a preterm infant with multiple intracardiac thrombi, in which thrombophilic disorder tests revealed that the patient was heterozygous for the G20210A prothrombin gene variant resulting from a G→A transition at position 20210 has been identified as a genetic risk factor for venous thrombosis.

Case report: A male premature infant (birth weight 980 g) was delivered by cesarean section after 28 weeks of gestation because of fetal distress due to uncontrolled preeclampsia. He developed respiratory distress syndrome, requiring surfactant treatment. On the 6th day, the infant deteriorated clinically and he had a Lactococcus Lactus sepsis. Echocardiography showed patent ductus arteriosus, multiple thrombi in all four cardiac chambers, in descending aorta adjacent to the ampulla of the ductus, and both on aortic and pulmonary valves. Laboratory investigations showed anemia, thrombocytopenia, PT=38 sec (11-15), INR 2.2 (0.75-1.5), aPTT= 51.1 sec (25-40), fibrinogen= 199 mg/dl (144-430), D-dimer 3 = 5.4 mg/dl (0-0.5). The patient was negative for toxoplasma, rubella, CMV, HSV I and II serologies. A detailed thrombophilic disorder tests were performed, including antithrombin III activity, protein C activity, activated protein C resistance and free protein S revealed no abnormality. Factor V Leiden mutation was not present; a heterozygous prothrombin A20210A mutation was detected. Anticoagulant treatment with low molecular weight heparin resulted in a complete disappearance of the thrombi.

Conclusion: It could be suggested that prothrombin gene variant associated with sepsis, respiratory distress syndrome and perinatal asphyxia, as other thrombophilic disorders, could be a risk factor for the development of neonatal intracardiac thrombi.

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E-SELECTIN: AS AN EARLY INDICATOR AND FOLLOW-UP PARAMETER IN LATE NEONATAL SEPSIS

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Objective: No single or combined tests with a high sensitivity and spesifity have been found helpful in the early, rapid and correct diagnosis of neonatal sepsis till now. The aim of this study was to evaluate the value of E-selectin as an early indicator and follow-up parameter in late neonatal sepsis. We also wanted to compare its diagnostic efficacy to CRP, which is commonly used as a diagnostic criteria.

Methods: This study was carried out in the neonatology department of Akdeniz University Medical School. Fortyfour infants (16 term and 28 preterm) with sepsis were enrolled in the study. Out of these 44 newborns, 24 had positive blood cultures and 20 had clinical sepsis. The day on which the clinical findings of sepsis was observed was accepted as day 1. Venous blood samples of the infants were drawn on days 1, 3 and 5. Each infant had a gestational and postnatal age matched healthy control. CRP and E-selectin levels were measured in these blood samples.

Results: Compared to the control group, CRP levels were higher in the infants with sepsis ($p<0,05$) and decreased on days 3 and 5. No significant difference was observed between CRP levels of term and preterm infants ($p>0,05$). There was no significant difference in the E-selectin levels either between term and preterm infants, or between infants with sepsis and control groups ($p>0,05$). Although, E-selectin levels decreased on days 3 and 5, no significant difference was detected between the days.

Conclusion: E-selectin seems not to be helpful in the initial diagnosis and follow up of late neonatal sepsis but more studies with larger number of patients are necessary in order to confirm this suggestion.

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