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Immediate diagnosis of early onset sepsis in premature newborns by measurement of cord C-reactive protein and interleukin-6

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Abstract

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Background: The purpose of this study was to determine the relationship between early onset sepsis and increased levels of C-reactive protein (CRP) and interleukin-6 (IL-6) in cord plasma. **Methods:** A prospective study was conducted in 141 premature infants delivered with gestational ages of 26-35 weeks. IL-6 and CPR were measured by enzyme-linked immunoassay in the cord plasma of the neonates. According to clinical, laboratory findings and blood culture results, newborn infants were allocated into four groups (A-D): documented early onset infection, clinical sepsis, possible infection, and control groups respectively. **Results:** Mean IL-6 levels in group A-D was 264, 212, 160, and 33.3 pg/ml respectively. Difference between groups was statistically significant ($p=.002$). With cut off point of 18 pg/ml, the sensitivity and specificity of IL-6 for diagnosis of early onset sepsis was 72% and 55% respectively. There was not significant difference between mean levels of CRP among groups ($p=0.28$). **Conclusion:** Having considered the relatively good sensitivity and moderate specificity of cord IL-6, using this test can be recommended as a useful detector of early onset sepsis and non-infected sick neonates.

Reaxys Database Information

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Author keywords

CRP; Interleukin-6; Premature newborn; Sepsis

Indexed Keywords

EMTREE drug terms: C reactive protein; interleukin 6

EMTREE medical terms: article; blood culture; controlled study; enzyme linked immunosorbent assay; female; gestational age; human; laboratory test; major clinical study; male; medical documentation; newborn; newborn infection; onset age; prematurity; prospective study; protein blood level; sensitivity and specificity; sepsis; statistical significance; umbilical cord blood

Chemicals and CAS Registry Numbers: C reactive protein, 9007-41-4

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