

Original Research Article

A study of bacterial sepsis and its relation to thrombocytopenia in neonates

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ABSTRACT

Background: In developing countries like India, the culture facilities are non-existent in most of the district hospitals, so the burden of identification of sepsis lies on hematological investigations like platelet count and white blood cells and very few Indian studies have been done to show the association. Objectives: 1) To know the incidence of thrombocytopenia in babies with proven bacterial sepsis. 2) To find, if any, species specific differences in severity and incidence of thrombocytopenia. 3) Clinical outcomes in thrombocytopenic and nonthrombocytopenic septic babies.

Methods: It is a prospective observational hospital based study. All the neonates admitted to our NICU with probable sepsis were screened for sepsis and neonates with birth weight of 1000 grams and above with blood and/or Cerebrospinal Fluid (CSF) culture positivity for bacterial growth were recruited during the study period from November 2011 to October 2012. A total of 100 neonates with blood and/or CSF culture positivity for bacterial growth were considered convenient for the study.

Results: During the present study period of 1 year we had a total of 960 Neonates admitted to our NICU. 475 neonates were screened for sepsis. A total of 100 neonates with blood and/or CSF culture positivity for bacterial growth were considered for the study. *Klebsiella pneumoniae* sepsis was the highest contributor to the severe thrombocytopenia category (15 out of 29 cases). Out of the 100 cases, 41 had normal platelet count and 59 had thrombocytopenia. *Klebsiella* positivity was more significantly associated with severe thrombocytopenia than MRCONS positivity or rest of the cultures combined together (p value <0.01). Although there was no significant association between thrombocytopenia and mortality (p=0.176), the proportion of children with severe thrombocytopenia was significantly higher in babies who expired (25% vs 9%) when compared to babies who survived.

Conclusions: Our study shows that in our setting bacterial sepsis is significantly complicated by thrombocytopenia. Severe thrombocytopenia in a suspected case of bacterial sepsis might predict *Klebsiella species* sepsis and hence it may be prudent to start empirical antibiotics covering the *Klebsiella* species.

Keywords: Bacterial sepsis, Neonate, Thrombocytopenia