

Thrombocytopenia and Prolonged Prothrombin Time in Neonatal Septicemia

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Abstract : Septicemia in neonates refers to generalized bacterial infection documented by positive blood culture in the first 28 days of life and is one of the leading causes of neonatal mortality in sub-Saharan Africa. Thrombocytopenia in newborns is a result of increased platelet consumption; sepsis was found to be the most common risk factor. The objective of the study was to determine if there are organism-specific platelet responses among the 2 groups of bacterial agents: Gram-positive and Gram-negative bacteria, and also to examine the association of platelet count and prothrombin time with neonatal septicemia. 232 blood samples were collected for this study. The blood culture was performed using Bactec 9050, an instrumented blood culture system. The platelet count and prothrombin time were performed using Abacus Junior 5 hematology analyzer and i-STAT 1 analyzer respectively. Of the 231 neonates hospitalized with clinical sepsis, blood culture reports were positive in 51 cases (21.4%). *Klebsiella* spp. (35.3%) and *Staphylococcus aureus* (27.5%) were the most common Gram-negative and Gram-positive isolates respectively. Thrombocytopenia was observed in 30 (58.8%) of the neonates with septicemia. Of the 9 (17.6%) patients with severe thrombocytopenia, seven (77.8%) had *Klebsiella* spp. septicemia. Out of the 21 (63.6%) of thrombocytopenia produced by Gram-negative isolate, 17 (80.9) had increased prothrombin time. In conclusion, Gram-negative organisms showed the highest cases of severe thrombocytopenia and prolonged PT. This study has helped to establish a disturbance in hemostatic systems in neonates with septicemia. Further studies, however, may be required to assess other hemostasis parameters in order to understand their interaction with the infectious organisms in neonates.

Keywords : neonates, septicemia, thrombocytopenia, prolonged prothrombin time, platelet count

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