CORD BLOOD HEMATOLOGICAL PROFILE AS PREDICTOR OF MORTALITY AMONG NEONATES BORN TO HYPERTENSIVE MOTHERS

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ABSTRACT

INTRODUCTION: Hypertensive disorder of pregnancy causes uteroplacental insufficiency affecting perinatal outcome.

AIMS AND OBJECTIVES: To study the association of cord blood total leukocyte count, absolute neutrophil count and platelet count with mortality among neonates born to hypertensive mothers.

METHODS: A prospective cohort study was done on 100 neonates born to hypertensive mothers. At birth, 2 ml of cord blood was collected in an ethylenediaminetetraacetic acid vial and analysed for haemoglobin, haematocrit, mean corpuscular volume, mean corpuscular haemoglobin, mean corpuscular haemoglobin concentration, total leukocyte count (TLC), differential leukocyte count (DLC), absolute neutrophil count (ANC) and platelet count. The analysis was done using the automated cell counter method. The neonates who expired and the neonates who were discharged home were compared. Both groups were followed up during the hospital stay for clinical outcomes and compared with their cord blood haematological profile. Mortality and morbidity in terms of sepsis, respiratory distress syndrome, bleeding, necrotising enterocolitis were noted.

RESULTS: The neonates born to hypertensive mothers had decreased cord blood TLC, ANC and platelets and higher haemoglobin and haematocrit concentration. Cord blood TLC, ANC and platelets were significantly decreased in the neonates who had mortality (p = 0.005, 0.001 and 0.001 respectively).

CONCLUSIONS: There was significant association between cord blood TLC, ANC, platelet levels with mortality among neonates born to hypertensive mothers. Therefore, umbilical cord blood haematological profile can be performed in neonates born to mothers with hypertensive disorders of pregnancy, to anticipate and manage neonatal morbidity so as to prevent mortality.