

25th World Pediatrics Conference

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6th International Conference on Pediatric Critical Care and Emergency Medicine

October 18- 20, 2018 Warsaw, Poland

Nucleated red blood cells as marker of perinatal asphyxia

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World Health Organization (WHO) has defined perinatal asphyxia as a failure to initiate and sustain breathing at birth. Hypoxic ischemic encephalopathy (HIE) is one of the most common complications in an asphyxiated neonate because of its serious long term neuromotor sequelae among the survivors. Nucleated red blood cells (NRBC) count in umbilical cord of newborns has been suggested as a sign of birth asphyxia. As the present markers are not accurate in diagnosis and assessing the severity of fetal asphyxia, this study was undertaken to find the values of NRBCs in normal and asphyxiated neonates and the correlation of NRBCs with birth asphyxia. 80 neonates with asphyxia along with 80 healthy newborns were undertaken for two years study period. Maternal and neonatal information was recorded followed by clinical and laboratory evaluation. An NRBC level was determined per hundred white blood cells (WBC). Post discharge, immediate follow-up of asphyxiated infants was performed. Neonates were divided into two groups, with favorable and unfavorable outcome based on discharge or death. We observed that NRBC count with more than 10 per hundred WBC per cubic millimeter, had sensitivity of 88.75% and specificity of 100% in predicting complications of asphyxia. We demonstrate that NRBC per hundred WBC can be used as prognostic marker for neonatal asphyxia, which in combination with the severity of asphyxia can be co-related with high infant mortality, immediate outcome and complications of asphyxia.

Biography

Ayush Shrivastava has completed his MD at Datta Meghe Institute of Medical Science (Deemed University). He is working as a Senior Resident and interested in research projects. He is involved in pediatrics clinical practice since 2015. He has more than three years of undergraduate teaching experience. He has attended more than 50 conferences and workshops in India, organized and presented posters in national and international conferences.

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