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Myocardial dysfunction as a predictor of neurodevelopmental outcome in severely asphyxiated term neonates: A case control study

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Introduction: In perinatal asphyxia hypoxia is often responsible for myocardial ischemia which may affect the neurodevelopmental outcome. This study was planned to evaluate myocardial dysfunction in neonates with severe perinatal asphyxia by cardiac enzymes (CK total, CK-MB, troponin T), Electrocardiography (ECG) and echocardiography and to find out its relationship with neurodevelopmental outcome.

Methodology: 25 term neonates with severe perinatal asphyxia were enrolled and compared with 25 term babies without asphyxia. Myocardial involvement was assessed by ECG, echocardiography and CK total, CK MB and Troponin T measurements. Follow up at 3 months and 6 months was done for neurodevelopmental assessment using DASII.

Results: 23 (92%) cases had evidence of myocardial involvement as compared to one (4%) in control group. ECG was abnormal in 23 (92%) cases and one (4%) control. Serum levels of CK total, CK MB and troponin T were raised in 23 (92%), 23 (92%) and 13 (52%) cases, respectively. Echocardiography was abnormal in three (12%) cases. ECG changes and enzymatic levels showed increasing abnormalities with severity of HIE in cases ($p < 0.001$). Cardiac enzymes, echocardiography (LVEF and RVEF) and ECG changes showed significant correlation with delayed neurodevelopmental outcome at 3 months and 6 months ($p < 0.001$).

Conclusion: Myocardial dysfunction may have an association with HIE severity and neurodevelopmental outcome.

Biography

H. Bhasin has her expertise in evaluation and passion in improving the health and wellbeing of children. She has been working in Kalawati Saran Children's Hospital, India

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