

ABSTRACT

BACKGROUND

Perinatal asphyxia is one of the leading causes of neonatal mortality and important cause of preventable cerebral injury in neonates. Perinatal asphyxia causes myocardial dysfunction that leads to congestive cardiac failure, shock and death. We need to predict myocardial dysfunction earlier to achieve early hemodynamic stability thereby influencing the outcome in HIE babies.

AIM OF THE STUDY

To study the role of cardiac Troponin I in 1) early prediction of ischemic myocardial injury and 2) to correlate with clinical severity of HIE as per SARNAT and SARNAT staging.

METHODS

It was a prospective cohort study done in 50 asphyxiated term neonates during march 2017 to february 2018. Cardiac Troponin I level was measured within 6 hours of life by **QUANTITATIVE CHEMILUMINESCENCE ASSAY**. Normal value – 0.63 ± 58 ng/ml. The upper limit of normal value taken as 1.8 ng/ml.

RESULTS

Troponin I level was compared with ECG (P VALUE 0.001), ECHO (P VALUE 0.001), Shock (P VALUE 0.001) and inotropic support (P VALUE 0.001). Also Troponin I level was compared with seizures (P VALUE 0.002), ventilator support (P VALUE 0.006) and cranial ultrasound (P VALUE 0.040). The P value was significant when troponin I level was compared with HIE severity and Myocardial injury. Finally HIE severity was compared with Troponin I level which showed a significant P VALUE of 0.001.

CONCLUSION

Measuring cardiac Troponin I level might provide a useful proxy marker for the anticipated severity of myocardial dysfunction and as a marker of HIE severity that helps in early prediction of mortality in HIE babies. Cardiac Troponin I level of 3.55 ng/ml is considered to be a cut off for severe asphyxia and 3.77 ng/ml is found to be associated with high mortality in HIE.