

Correlation between levels of troponin T (TnT), pH cord blood, and Apgar score in fetal distress and normal pregnancy

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Abstract : Fetal distress is a condition when fetus does not receive enough oxygen causing fetal asphyxia interrupting growth and development of fetus leading to fetal and neonatal death. Methods used in prevention of fetal distress have not showed significant result yet. Measurement of Troponin T (TnT) is suggested as an alternative approach through measurement of levels of neonatal cord blood. Levels of TnT in neonates with respiratory failure, cardiac dysfunction, and asphyxia were found higher compared to healthy ones. Maternal cardiac also affects in reducing oxygen supply into fetus. This study aimed to determine new methods in early detection of fetal distress during pregnancy through measurement of maternal TnT levels. **Method:** This is observational analytic study with cross-sectional design. Cord blood samples were carried out from patients with caesarian birth Level of TnT was measured by ELISA method and pH of cord blood was measured by pH meter. Calculations were done by statistical analysis. **Results:** It is found that levels of TnT were higher in fetal distress compared to control ($p = 0.003$, $p < 0.05$). Result showed pH of cord blood was lower in fetal distress compared to control ($p = 0.040$, $p < 0.05$). There was negative correlation between levels of TnT and pH cord blood, Apgar score in fetal distress. **Conclusion:** Information regarding correlation between levels of TnT and pH cord blood, Apgar score in fetal distress and normal pregnancy is expected as a new approach in early detection of fetal distress during pregnancy resulting proper prevention in fetal and neonatal mortality by reducing fetal distress.

Keywords : asphyxia, acidosis, fetal distress, hypoxia, troponint