

**A22**

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**Cord Blood Troponin I Levels: Biomarker Evidence of Fetal Cardiac Injury in Intrahepatic Cholestasis of Pregnancy**

**Objective:** The purpose was to determine whether cord blood troponin I levels are increased in fetuses born to mothers diagnosed with intrahepatic cholestasis of pregnancy (ICP).

**Study Design:** A prospective case-control study was performed at a single institution (2017-2019), enrolling 87 pregnant patients with ICP (TBA  $\geq 11\mu\text{mol/L}$ ) as cases and 122 randomly selected asymptomatic pregnant patients (TBA  $< 11\mu\text{mol/L}$ ) as controls. Cord blood Troponin I was collected at delivery in both groups using a commercially available chemiluminescent immunoassay. Values  $\leq 0.04\text{ng/ml}$  were negative;  $> 0.04\text{ng/ml}$  were positive. Fisher exact and t-tests compared social and obstetrical variables ( $p < 0.05$  significant). A stratification by TBA range  $< 40\mu\text{mol/L}$ ,  $40\text{--}100\mu\text{mol/L}$ , and  $> 100\mu\text{mol/L}$  assessed the relationship between ICP severity (by fetal demise risk, with TBA  $> 100\mu\text{mol/L}$  most at risk) and likelihood of positive Troponin I. Finally, logistic regression determined if TBA  $\geq 11\mu\text{mol/L}$  predicted elevated Troponin and fetal acidosis.

**Results:** Demographics and obstetrical outcomes are in Table 1. Mean gestational age at delivery:  $38.96 \pm 1.47$  (controls) vs.  $37.71 \pm 1.59$  weeks (cases,  $p < 0.001$ ). Mean TBA:  $5.2 \pm 1.28\text{ng/ml}$  (controls) vs.  $43.2 \pm 40.62\text{ng/ml}$  (cases,  $p < 0.001$ ). Cord blood Troponin I was positive in 15/122 (12.3%) controls and 20/87 (22.99%) cases ( $p < 0.001$ ). Stratified by TBA  $< 40$ ,  $40\text{--}100$ ,  $> 100$ , higher TBA correlated with positive Troponin I ( $p = 0.002$ , Table 2). Adjusting for gestational age, maternal age, and BMI, higher TBA predicted positive Troponin I (aOR 1.015, 95% CI 1.004-1.026, Table 3).

**Conclusion:** Stratified by TBA, analysis confirmed positive Troponin I was more likely with higher TBA. TBA  $\geq 11\mu\text{mol/L}$  predicted positive Troponin I. Though no stillbirths in our cohort, findings confirm potential fetal cardiac injury from high TBA exposure via elevated cord blood Troponin I at birth.