Highly sensitive cardiac troponin T as a marker of postoperative myocardial Injury after caesarean section

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BACKGROUND AND GOAL OF STUDY:

Cardio vascular disease is a leading cause of maternal mortality. Our objective was to assess the incidence of subclinical myocardial ischemia amongst parturient, as evidenced by a raised highly sensitive troponin T (hsTnT) in the post-partum period after cesarean section under spinal anesthesia.

MATERIALS AND METHODS:

A single-center prospective observational study was conducted over a 2 months period. After consent of the parturients, elective or emergent caesareans section under spinal anesthesia were randomly included (the third, the fifth and the eighth caesarean section of the day). The hsTnT level was assessed at **2, 8 and 24** hours after delivery. Continuous ST segment monitoring was performed during intervention and 24h after.

RESULTS:

One hundred and eighty-nine patients were enrolled. The mean age was 32.4 ±5.7 years. Risk factors for coronary heart disease were found in 19.8 %. Twenty-nine (15,3%) parturients had significantly increased postoperative hsTnT. In those patients the mean hsTnT levels is presented in table I. No ST-segment depression was observed.

Highly sensitive troponin T elevation after delivery was associated with **perioperative tachycardia and preeclampsia**. All positive patients were referred to cardiology department. In 2 patients echocardiography showed hypertrophic cardiomyopathy.

Table I. High-sensitive cardiac troponin T levels at H2, H8 and H24

	Number (%)	Mean±SD pg/ml
hsTnT (+) at H2	39 (15.3)	45.8±42.2
hsTnT (+) at H8	28 (14.8)	32.1±35.4
hsTnT (+) at H24	19 (10.0)	32.1±22.5

CONCLUSION:

Highly sensitive troponin T is a reliable biomarker with high sensitivity and negative predictive values compared with conventional troponin (cTn). For the diagnosis of acute myocardial infarction (AMI), hsTnT offers excellent diagnostic performance and some evidence exists for a better diagnostic accuracy than cTn. In our study, we found a significant increase in serum hsTnT levels in 15.3% of caesarean sections. Preeclampsia and hemodynamic instability were the risk factors for sub-clinical myocardial injury after caesarean section under spinal anesthesia.

Fig. 1: Flow Chart