

## What troponin I level post PCI in SIHD is predictive of higher risk of MACE?

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**Funding Acknowledgement:** Type of funding source: None

**Background:** According to the 4th universal definition of myocardial infarction (MI), post percutaneous coronary intervention (PCI) MI is defined as an elevation of cardiac troponin values more than five times above the 99th percentile upper reference limit. The ISCHEMIA Trial in stable ischaemic heart disease (SIHD) patients reported post PCI troponin rise as part of the primary endpoint. What represents a clinically significant troponin rise post PCI has not been clearly established.

**Purpose:** The aim of our study was to correlate the level of troponin I rise with adverse events post PCI in SIHD.

**Methods:** We performed a retrospective analysis of our PCI registry in patients with SIHD between 2014 and 2018. Patients with acute coronary syndrome were excluded. HS-troponin I was measured one day after the procedure. The primary end point was major adverse cardiac events (MACE) including death, MI, stent thrombosis (ST) and need for repeat revascularization within 12 months from index procedure.

**Results:** Between 2014 and 2018, 920 patients (mean age 67.5 years, 78% male) underwent PCI for SIHD. Troponin rise post PCI was a common event and a level more than 100ng/L (reference range <26 ng/L) occurred in 54% of patients. Mean and median troponin I level post PCI was 675 ng/L±2530 and 118 ng/L respectively. In patients with MACE, mean troponin I level was 1361 ng/L compared with 611 ng/L in patients without MACE (P=0.0176). Correlation of troponin I level with one year MACE rates are shown in the Graph. MACE rates were steady at 8.5% with troponin I levels below 2500 ng/L after which there was a significant increase in the MACE rates. At troponin I level above 5000 ng/L MACE was 13.6% and above 10,000 ng/L it was 33.3%.

**Conclusion:** Troponin I levels above 2500 ng/L (x100 upper limit normal) correlated with an increase in the risk of MACE in patients undergoing PCI for SIHD. Our results suggest that current definitions of procedural MI overestimate the clinical significance of post PCI troponin rise.

