

Troponin I Elevation after Elective Percutaneous Coronary Interventions: Prevalence and Risk Factors

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ABSTRACT

Percutaneous coronary intervention (PCI) is one of the most important modalities of treatment for coronary artery disease (CAD). The objective of this hospital based comparative observational study was to determine the prevalence of post procedural Cardiac troponin I (cTnI) elevation after elective PCI and also to find out the relation with risk factors such as age, sex, body mass index (BMI), smoking, anemia, diabetes mellitus, hypertension, dyslipidemia, family history, left ventricular dysfunction, renal insufficiency, type of stent, number of stent and length of stent. This was a hospital based comparative observational study carried out in Chittagong Medical College Hospital, Chattogram, Bangladesh from July 2018 to June 2019. A total of 50 patients who underwent elective PCI were included as sampled by purposive sampling method. Serum cTnI was measured by FIA8000 quantitative immunoassay analyzer before and at 24 hours of PCI. Value >1.0ng/ml was considered elevated. Univariate and multivariate analysis were applied to assess predictors for the occurrence of post-procedural elevation of cTnI. The mean±SD age of the study population was 54.96±9.1 years and 68.0% patients were male. Regarding cardiovascular risk factors, 34.0% patients had diabetes mellitus, 54.0% had dyslipidemia, 60.0% had hypertension, 64.0% were current or ex-smokers and 40.0% had a family history of CAD. 36.0% had post-procedural cTnI elevation but only 16.0% had significant (>1.0ng/ml) elevation. Change of cTnI before and at 24 hours of PCI was not significant (p=0.057). Minor elevation of cTnI was common following elective PCI and associated with few risk factors such as elderly patient (more than 50 years), raised serum creatinine and multi-vessel stenting. So, early detection of these risk factors, as well as effective intervention may help to prevent injury to cardiac tissue hence stop elevation of cardiac TnI following elective PCI.

I have completed my MD (Cardiology) from Chittagong Medical College under Bangabandhu Sheikh Mujib Medical University, before that I also completed MBBS from Chittagong Medical College under Chittagong University. I was joined as an assistant surgeon in Bangladesh civil service in 2006 and now working as a clinical pathologist in Infectious Diseases Hospital under Bangladesh institute of tropical & Infectious Diseases. I have a few publications.

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