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Valvular Heart Disease

DISTINCT ELECTROCARDIOGRAPHIC CHANGES IN PATIENTS WITH INCREASED TROPONIN I LEVELS AFTER TAVI

ACC Moderated Poster Contributions
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Background: Uncomplicated transcatheter aortic valve implantation (TAVI) procedures could be associated with a rise in cardiac markers of myocardial injury. The reason for that is multifactorial. It has not been evaluated whether this elevation is associated with new electrocardiographic (ECG) findings after TAVI. We determined the incidence and the characteristics of ECG changes in patients with troponin elevation after TAVI.

Methods: Consecutive patients, without significant coronary artery disease, who underwent uncomplicated transcatheter aortic valve implantation (TAVI) were evaluated. Troponin I levels and electrocardiograms were recorded daily, before and for 5 days after the procedure. In patients with elevated troponin levels, baseline and post-procedural ECG recordings were compared.

Results: Out of 115 consecutive patients (pts), 47 pts (20 males, mean age 80.55±5.07 yrs) manifested elevated troponin I levels (mean troponin I = 1.38 ±1.05). The ECG findings before TAVI showed a significant agreement with the respective findings after TAVI for every ECG feature except for QTc prolongation. Before TAVI, QTc prolongation (470.13±13.67) was detected in 8 pts (18.2%) while after TAVI, prolonged QTc (481.8±20.2) was observed in 73.3% ($p<0.001$). Moreover after TAVI, we recorded significant increase in 1st degree atrioventricular block (15.9% vs. 31.8%, $p<0.01$) and left bundle branch block (LBBB) frequency (4.5 vs. 45.5%, $p=0.01$).

Conclusion: In patients with Troponin I elevation after TAVI the incidence of prolonged QTc is increased. This may reflect ischemia as a result of microembolization or the mechanical effect of the prosthesis itself on the conduction system.