

Post-Percutaneous Coronary Intervention Creatine Kinase Elevation: An Angiographic Complication Predicts a Worse 1-Year Outcome

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Background: It is already known that elevated CK-MB after successful PCI is associated with worse long-term outcome. However, it is not clear whether the outcome is different when CK-MB elevation is attributed to an angiographic complication compared to patients with no angiographic explanation for CK-MB elevation.

Objective: To compare 1-year outcomes of patients with post-procedure CK-MB elevation with or without angiographic complication.

Methods: A single center, 1-year period, retrospective analysis of all patients with post-procedure CK-MB >x2 the upper limit of normal. Patients with acute MI and pre-procedure elevated CK-MB were excluded. All cine-angiograms were carefully reviewed for angiographic complications including any side-branch occlusion (TIMI 0 or 1), no flow, transient abrupt closure, and perforation. Patients were divided into group A – with angiographic complication and group B – no angiographic complication. The primary end point was a 1-year composite of death, MI, recurrent revascularization, and re-hospitalization for cardiac causes (MACE).

Results: 149 patients (9% of all patients undergoing PCI) met the inclusion criteria (group A=62, group B=87). Mean age, gender, indication for PCI, GP IIB/IIIa use, coronary risk factors, number of intervened vessels, and number of stents used were similar among groups. Among group A, 74% had side-branch occlusion, 13% no flow, and 11% had abrupt closure (or 31%, 5.3%, and 4.7%, respectively, from all patients with CK-MB elevation). Post-procedure mean CK-MB was 41±36µg/L in group A compared to 30±45 in group B (p=0.10). One year MACE rate was 32.1% in group A compared to 11.0% in group B (p<0.01): death 3.6% versus 2.4% (p=NS), MI 5.3% versus 1.2% (p=0.2), and recurrent revascularization 7.1% versus 6.1% (p=NS).

Conclusions: In patients with post-procedure CK-MB elevation, the occurrence of an angiographic complication identifies a higher risk group. Efforts should be made to avoid any angiographic complication such as side-branch occlusion.