Incidence of coronary bifurcation lesion as a culprit lesion in patients with acute myocardial infarction: impact of treatment strategy on short- and long-term outcomes

**KEYWORDS:** acute coronary syndrome, bifurcation, revascularization, side branch loss, mortality.


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**Background:** Although, there are several studies comparing single and two-stent techniques in patients with bifurcation lesions, evidence in patients presenting with myocardial infarction (MI) is still insufficient. 1-3 We aimed to assess the short- and long-term outcomes of provisional and two-stent techniques of bifurcation lesions in patients with acute coronary syndromes (ACS).

**Patients and Methods:** 2992 patients with MI who underwent percutaneous coronary intervention (PCI) were enrolled in the present study. Of 2992 patients, 385 patients with MI had bifurcation lesions. The Synergy between PCI with TAXUS™ and Cardiac Surgery (SYNTAX) score, pre-PCI Thrombolysis in Myocardial Infarction (TIMI) flow, post-PCI TIMI flow, duration of procedure, angiographic features, post-PCI side branch loss, 1- and 12-month mortality rates were noted.

**Results:** 169 (43.9%) patients had ST-segment elevation MI, whereas 216 (56.1%) patients had non-ST-segment elevation MI. 355 (92.2%) patients underwent provisional stenting and 30 (7.8%) patients underwent two-stent technique. Side branch loss was observed in 40 patients (11.2%) in the provisional group and 1 patient (3.3%) in the two-stent group (p=0.2). Compared to provisional group, durations of angiography and revascularization in two-stent group were significantly longer (p<0.001 and p<0.001).

Both 1-month and 12-month mortality rates were similar in provisional and two-stent groups (4.2% vs. 3.3%, p=0.8 and 11.5% and 13.3%, p=0.7; respectively).

**Conclusion:** In patients presenting with ACS and bifurcation lesions, procedural success, side branch loss, as well as short- and long-term mortality were similar in both provisional and two-stent techniques.