

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

 Hazar Harbalioglu^{1*},
 Caner Turkoglu²,
 Taner Seker³,
 Alaa Quisi⁴,
 Omer Genc³,
 Gokhan Alici⁵,
 Samir Allahverdiyev⁶,
 Ahmet Oytun Baykan³,
 Mustafa Gur³

¹Duzce Ataturk State Hospital, Department of Cardiology, Duzce, Turkey

²Malatya Research and Training Hospital, Department of Cardiology, Malatya/Turkey

³Universtiy of Health Sciences Adana Health Practices and Research Center, Department of Cardiology, Adana/Turkey

⁴Department of Cardiology, Medline Adana Hospital, Adana, Turkey

⁵Okmeydani Research and Training Hospital, Department of Cardiology, Istanbul/Turkey

⁶Department of Cardiology, Biruni University Faculty of Medicine, Istanbul, Turkey

RECEIVED:
June 25, 2019

ACCEPTED:
September 16, 2019



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

CITATION: *Cardiol Croat.* 2019;14(9-10):209. | <https://doi.org/10.15836/ccar2019.209>

***ADDRESS FOR CORRESPONDENCE:** Hazar Harbalioglu, Duzce Ataturk State Hospital, Department of Cardiology, Duzce, Turkey. / Phone: +905363602980 / E-mail: hazarhmail@hotmail.com

ORCID: Hazar Harbalioglu, <https://orcid.org/0000-0002-6694-814X> • Caner Turkoglu, <https://orcid.org/0000-0003-1275-630X> • Taner Seker, <https://orcid.org/0000-0003-4254-907X> • Alaa Quisi, <https://orcid.org/0000-0002-5862-5789> • Omer Genc, <https://orcid.org/0000-0002-9097-5391> • Gokhan Alici, <https://orcid.org/0000-0002-4589-7566> • Samir Allahverdiyev, <https://orcid.org/0000-0003-3175-0835> • Ahmet Oytun Baykan, <https://orcid.org/0000-0002-6103-2511> • Mustafa Gur, <https://orcid.org/0000-0002-2474-5352>

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.

LITERATURE

1. Falk E, Shah PK, Fuster V. Coronary plaque disruption. *Circulation.* 1995 Aug 1;92(3):657-71. <https://doi.org/10.1161/01.cir.92.3.657>
2. Ross R. Atherosclerosis—an inflammatory disease. *N Engl J Med.* 1999 Jan 14;340(2):115-26. <https://doi.org/10.1056/NEJM199901143400207>
3. Fuster V, Badimon L, Badimon JJ, Chesebro JH. The pathogenesis of coronary artery disease and acute coronary syndromes. *N Engl J Med.* 1992 Jan 23;326(4):242-50. <https://doi.org/10.1056/NEJM199201233260406>