

Thrombus aspiration in ST-segment elevation myocardial infarction before and after TASTE trial: experience from the Western Slavonia Primary Percutaneous Coronary Intervention Network

Božo Vujeva,
Deiti Prvulović,
Krešimir Gabaldo,
Ognjen Čančarević,
Irzal Hadžibegović*

General Hospital "Dr. Josip Benčević", Slavonski Brod, Croatia

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***ADDRESS FOR CORRESPONDENCE:** Irzal Hadžibegović, Opća bolnica "Dr. Josip Benčević", Andrije Štampara 42, HR-35000 Slavonski Brod, Croatia. / Phone: +385-91-533-3091 / E-mail: irzalh@gmail.com

ORCID: Božo Vujeva, <http://orcid.org/0000-0003-0490-3832> · Deiti Prvulović, <http://orcid.org/0000-0002-8041-1197>
Krešimir Gabaldo, <http://orcid.org/0000-0002-0116-5929> · Ognjen Čančarević, <http://orcid.org/0000-0002-1285-8042>
Irzal Hadžibegović, <http://orcid.org/0000-0002-3768-9134>

Background: Optimal results of primary percutaneous coronary intervention (PCI) in acute ST-segment elevation myocardial infarction (STEMI) are sometimes challenged by large thrombotic burden. TAPAS (Thrombus Aspiration during Percutaneous coronary intervention in Acute myocardial Infarction Study) trial in 2008 first showed that thrombus aspiration in STEMI patients with large thrombotic burden improved overall survival after 1 year.¹ Later on in 2013, Thrombus Aspiration in ST-Elevation Myocardial Infarction in Scandinavia (TASTE) trial, a prospective national registry showed no benefit of routine thrombectomy in STEMI.² 2012 European Society of Cardiology (ESC) Guidelines for the management of STEMI, that are currently available, gave a strong recommendation (IIaB) for manual thrombectomy in STEMI.³ However, that recommendation was downgraded to IIbA after TASTE trial in 2014 ESC Guidelines on myocardial revascularization.⁴ Here, we present the data on thrombus aspiration utilization within the Western Slavonia Primary PCI network, and compare the results between pre-TASTE and post-TASTE era.

Patients and Methods: Data on primary PCI techniques to achieve Thrombolysis in Myocardial Infarction (TIMI) 3 flow, on utilization of the glycoprotein IIb/IIIa inhibitors, and on clinical outcomes in STEMI were collected in 2012 and 2013, and compared to data from 2014 and 2015.

Results: In 2012 and 2013, out of 114 patients that underwent primary PCI in STEMI 32% received thrombus aspiration, out of whom 61% had thrombus aspiration in the right coronary artery. Overall TIMI 3 rate was 88%, and overall in-hospital mortality was 6.1%. In 2014 and 2015 there were 253 patients with primary PCI in STEMI, with only 17% of thrombectomy cases (68% of cases were done in the right coronary artery). Overall TIMI 3 rate was 91%, and in-hospital mortality 5.9%.

Conclusion: Thrombectomy penetration dropped significantly, together with the glycoprotein IIb/IIIa inhibitors use after publication of TASTE trial. Patients that received thrombectomy in 2014 and 2015 had mainly high thrombotic burden in the right coronary artery, or had embolic myocardial infarction. There were no changes in TIMI 3 achievement and in-hospital mortality. Manual thromboaspiration remains a useful tool only in selected population of patients with highly thrombotic lesions, aneurysmal coronary artery disease or embolic myocardial infarction.

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LITERATURE

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