

How to avoid system delay in the managing of patients with ST-segment elevation myocardial infarction – experience from Western Slavonia

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Introduction: Primary percutaneous coronary intervention (PCI) is recommended for patients with ST-segment elevation myocardial infarction (STEMI) if it can be performed in a timely manner. Universal access is the major limitation of a PCI strategy, especially for STEMI patients who are usually initially transferred to a non-PCI hospital. A PCI network-oriented approach that bypasses non PCI centers in favor of PCI capable centers can reduce system delay and improve patient outcomes.¹⁻³

Patients and Methods: The General Hospital "Dr Josip Benčević" is a PCI-center in Western Slavonia within the Croatian PCI Network. We have developed a regional protocol for transfer of field-triaged patients directly to our hospital, bypassing local non-PCI hospitals. The Cath Lab was notified by the field emergency medical service (EMS) when a STEMI was suspected. Premedication with a loading dose of aspirin and a P2Y12 inhibitor was administered according to established protocol, and patients were admitted directly to the Cath Lab. Patient- and procedure-specific information as well as data from the Hospital Information Service and EMS register were documented in our register.

Results: Between January 2020 and October 2021, a total of 37 patients with suspected STEMI infarction were transferred to the Cath Lab, including 13 women with a mean age of 75 years (53-91 years) and 24 men with a mean age of 61 years (46-80 years). STEMI diagnosis was confirmed in 33 patients, 2 patients had pericarditis, 1 patient had Takotsubo cardiomyopathy, and 1 patient had hypertensive crisis. The culprit artery was the right coronary artery (RCA) in 17 (51.5%) patients, left anterior descending artery in 9 (27.3%) patients, circumflex artery in 5 (15.2%) patients, venous bypass graft in 1 (3%) patient, and 1 (3%) patient refused the procedure. All patients received aspirin, 14 (42.4%) patients received a P2Y12 inhibitor. Two patients suffered cardiac arrest during transport due to malignant arrhythmias (VF/VT). Patients with RCA occlusion were transported faster (median 37 minutes) than those with LAD occlusion (median 41 minutes).

Conclusion: Direct communication between EMS and field-triaging patients to the PCI center resulted in safe and efficient transport of patients to the cath lab. A shorter health care system delay can reduce reperfusion time and may be the key to further improving cardiovascular outcomes in STEMI patients.

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