Efficacy and safety of pharmacoinvasive strategy compared with primary PCI in patients with STEMI presenting to non-PCI hubs: A real world study

Authors:

Topic(s):
Revascularisation

Background: Primary percutaneous coronary intervention (PPCI) is the treatment of choice for ST-elevation myocardial infarction (STEMI). Clinical practice guidelines recommend performing pPCI <120 minutes after the diagnosis of STEMI. Nevertheless, in a real world model this treatment is not always the fastest option. This is mostly due to the transfer delays when patients arrive to non-PCI capable hubs. These delays can decrease the benefits of the PPCI. Regional networks have been created to speed up these times and administer reperfusion therapy as early as possible. The pharmacoinvasive strategy (PIs) consists of the administration of fibrinolytic drugs in the non-pPCI setting followed by the immediate transfer of the patient to a pPCI center.

Purpose: To compare the efficacy and safety of pharmacoinvasive strategy compared with referral for primary PCI in patients with STEMI presenting to non PCI hubs.

Methods: A retrospective analysis of the PHASE-MX study (ClinicalTrials.gov Identifier: NCT03974581) including patients with STEMI whom initially presented to non-PCI hospitals and underwent either systemic fibrinolysis followed by pharmaco-invasive strategy or were transfer to perform primary PCI according to the decision made by the doctor in the non-PCI center, the ease of referring the patient and the proximity of the PCI center. The primary composite endpoint included the occurrence of cardiovascular death, cardiogenic shock, recurrent MI or congestive heart failure at 30 days of follow-up.

Results: A total of 448 patients were included, of whom 273 (60.9%) underwent PIs and 175 (39.0%) were transferred for pPCI. Mean age was 58±10 years, and most patients (86.8%) were male. No statistically significant differences in risk factors and other clinically meaningful variables were found. There was a 40% reduction in the risk of the primary composite endpoint (HR 0.60 for PIs: 95% CI:0.36-0.99; p=0.048) for those undergoing PIs compared with pPCI, (Figure 1).

Conclusion: The pPCI main limitation is the impossibility to use it in the entire population due to its limited geographic availability and the delays involved in the transfer of patients from non-pPCI centers to reference hospitals. Through the PIs patients who arrive at non-PCI hospitals with STEMI and receive thrombolysis and then are redirect to PCI center there was a 40% reduction in the risk of a major endpoint occurring.
Efficacy and safety of pharmacoinvasive strategy compared with primary PCI in patients with STEMI presenting to non-PCI hubs: A real world study

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Log rank p = 0.041