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EARLY PERCUTANEOUS CORONARY INTERVENTION AFTER THROMBOLYSIS IN STEMI: THE EARLY-PCI PILOT FEASIBILITY STUDY

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Introduction Primary percutaneous coronary intervention (PCI) is the preferred treatment for patients with STEMI now. But few patients can receive it within 90 min recommended by the guideline in the real world. Early routine PCI after fibrinolysis in STEMI patients combined lytictherapy and angioplasty, which provided rapid, complete and sustained reperfusion for STEMI patients. Since alteplase is the only specific human tissue plasminogen activator available in China, the trial of early percutaneous coronary intervention after thrombolysis in STEMI pilot feasibility study was undertaken to determine the feasibility and safety of early PCI strategy after successful half-dose alteplase reperfusion.

Methods Fifty consecutive patients aged 18-75 years with STEMI presented within 6 h to hospitals between July 2010 to March 2011 were enrolled. All the patients fulfilled the criteria of thrombolysis without any of contraindication. Expected time delay from first medical contact to PCI ≥90 min. All patients received half-dose alteplase (8 mg bolus followed by 42 mg in 90 min) and unfractionated heparin. Upfront aspirin (300 mg) and clopidogrel (300 mg) loading was strongly encouraged. Patients with persistent ST-segment elevation (that is, a reduction in ST-segment elevation of less than 50%) and chest pain or with hemodynamic instability were considered as thrombolysis failure and accepted rescue PCI immediately. Other patients were recommended to have cardiac catheterisation within 3-24 h after successful thrombolysis. Potential clinical efficacy end points included death, reinfarction, severe recurrent ischemia, new or worsening heart failure or carcinogenic shock. Possible safety end point was the incidence of bleeding complications, classified by the Thrombolysis in Myocardial Infarction (TIMI) bleeding severity scales. Feasibility was evaluated by flow and myocardial perfusion status in the IRA after PCI.

Results Fifty patients were enrolled and one patient was excluded after thrombolysis as a result of refusing to undergo declined cardiac catheterisation. 40 patients achieved clinical criteria of reperfusion. Nine patients underwent rescue PCI for persistent chest pain and ≥50% ST-segment resolution. All patients but two had stenosis of 70% or more in the IRA. PCI was attempted in 46 patients and 43 patients achieved successful reperfusion after PCI. Two patients with persistent occlusion of the left anterior descending coronary arteries after thrombolysis developed no-reflow after stent implantation. Femoral access was used for eight patients and radial access was used for the remaining 41 patients. Among the 49 patients, there were two died during 30 days following up. The composite end point of death, cardiogenic shock, heart failure, reinfarction and recurrent ischemia occurred in four patients. Bleeding complications occurred in four patients. All of them were TIMI minor bleeding complications.

Conclusion Early routine PCI after rt-PA thrombolysis is feasible for its efficacy and safety in Chinese people.