Prehospital fibrinolysis was as good as primary angioplasty after myocardial infarction


**Question**
In patients with myocardial infarction (MI), is primary angioplasty better than prehospital fibrinolysis and transfer for possible rescue angioplasty?

**Design**
Randomized (allocation concealed*), blinded (outcome assessors),* controlled trial with 30-day follow-up (Comparison of Angioplasty and Prehospital Thrombolysis in Acute Myocardial Infarction [CAPTIM] study group).

**Setting**
27 tertiary care hospitals in France and their mobile emergency care units.

**Patients**
840 patients (median age 58 y, 82% men) with symptoms of MI for ≤ 6 hours. Exclusion criteria were known bleeding disorders or contraindication to fibrinolysis, severe renal or hepatic insufficiency, aorto-femoral bypass or hampered femoral artery access, cardiogenic shock, history of coronary artery bypass graft surgery, current oral anti-coagulant treatment, or expected duration of hospital transfer > 1 hour. Follow-up data were available for 837 patients (99.6%).

**Intervention**
All patients received an intravenous (IV) bolus of heparin, 5000 U, and aspirin, 250 to 500 mg, orally or IV. Patients were allocated to primary angioplasty involving immediate transport to the hospital for coronary angiography and angioplasty if needed (n = 421), or to prehospital fibrinolysis with an IV bolus of alteplase, 15 mg, and alteplase infusion, 0.75 mg/kg of body weight for 30 minutes and 0.50 mg/kg for the next 60 minutes (n = 419).

**Main Outcome Measures**
Composite of death, nonfatal MI, and nonfatal disabling stroke at 30 days. Secondary outcomes were cardiovascular mortality, refractory recurrent ischemia, cardiogenic shock, severe bleeding, and emergency revascularization.

**Main Results**
Analysis was by intention to treat. The groups did not differ for the composite endpoint (Table). Of the secondary outcomes, unplanned revascularization was required more frequently in the prehospital fibrinolysis group than in the primary angioplasty group (34.5% vs 4.7%, P < 0.001). The groups did not differ for any other outcomes.

**Conclusion**
In patients with myocardial infarction, primary angioplasty was no better than prehospital fibrinolysis and transfer to hospital for possible angioplasty.

**References**