



Home Announcements Archives Fast Track Issue Search User About FYI Go to mat.or.th

Journal of the Medical Association of Thailand, Vol 96, No 6

Home > Vol 96, No 6 > Wongwanit

Font Size: [A](#) [A](#) [A](#)

Catheter-Directed Thrombolysis for Acute Limb Ischemia Caused by Native Artery Occlusion: An Experience of a University Hospital

Chumpol Wongwanit, Suteekhanit Hahtapornsawan, Khamin Chinsakchai, Nuttawut Sermsathanasawadi, Kiattisak Hongku, Chanean Ruangsetakit, Pramook Mutirangura

Abstract

Objective: To evaluate the efficiency and complications of catheter-directed thrombolysis (CDT) of acute limb ischemia (ALI) resulting from thromboembolic occlusion.

Material and Method: A retrospective study of CDT was carried out in patients with acute thromboembolic arterial occlusion and marginally threatened ischemia of the extremities between February 2006 and December 2011. After the tip of the angiographic catheter was placed within the blood clot, recombinant tissue plasminogen activator (rt-PA) was used for thrombolysis. The CDT procedure included an initial bolus injection of high dose rt-PA (5-15 mg) followed by a tapering of infusion rate (1-2 mg/hour) through the catheter. Primary outcome was 1-year amputation free survival rate and mortality rate. Secondary outcome included technical and clinical success rates, time to lysis, and complication rate. The complete reestablishment of the occluded arteries without major amputation and death was considered successful treatment.

Results: Thirty-seven patients (30 males and 7 females) with the mean age of 55.6 years (range, 27-86 years) were enrolled in the present study. The number of acute arterial occlusion was 23 (62.2%) of acute arterial embolism and 14 (37.8%) of acute arterial thrombosis. Embolism involved two aortic bifurcations, two iliac arteries, five femoral arteries, 13 popliteal arteries, and one both popliteal arteries. The sites of thrombosis were one of aorto-iliac segment, three of iliac artery, five of femoral artery, three of popliteal artery, one of bilateral popliteal, and one of tibio-peroneal artery. The mean duration of completed infusions was 21.29 hours (range, 2-58 hours). Successful adjunctive percutaneous intervention or arterial bypass was performed in seven patients (18.9%) whose stenotic lesions were disclosed following CDT. The 30-day perioperative mortality and 30-day amputation-free survival rates of the patients treated by CDT were 10.8% (4 of 37 patients) and 86.5% (32 of 37 patients) respectively. Both 6-month and 1-year amputation free survival rate were 78.4% (29/37). Technical success rate was 75.7% (28/37) whereas clinical success was 86.5% (32/37). Technical success rate was 80.0% (28/35) if ischemic symptom onset was no longer than six weeks. The 30-day major complications included two patients (5.4%) requiring more than four units of blood transfusion for access site hematoma, two (5.4%) large fatal intracerebral hemorrhages, one (2.7%) small intracerebral hemorrhage, one (2.7%) acute embolic stroke, and one (2.7%) death of multiple organ failure following conversion to surgical revascularization. Minor complications were distal thromboembolization in one patient (2.7%), small hematoma in seven patients (18.9%), and pseudoaneurysm in one patient (2.7%).

Conclusion: CDT is an effective armamentarium to salvage the ischemic limb resulting from acute embolism and acute thrombosis of native artery. However, bleeding complication is a major problem of this treatment. Although CDT is usually applied for ALI patients with ischemic symptom onset less than 14 days, it also provides technical success for those with the symptom onset between the second and the sixth weeks.

Keywords: Catheter-directed thrombolysis, Acute limb ischemia, Acute embolism, Acute thrombosis, Native artery occlusion

Full Text: [PDF](#)

The Medical Association of Thailand

Address: 4th Floor, Royal Golden Jubilee Building, 2 Soi Soorvijai, New Petchburi Road, Bangkok 10310, Thailand

Telephone: 0-2716-6102, 0-2716-6962 press 0 Fax: 0-2314-6305

E-mail: jmedassocthai@yahoo.com, math@loxinfo.co.th 