

# **Subintimal angioplasty as a limb saving procedure for critical lower extremity ischemia**

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## **Introduction:**

Critical lower extremity arterial occlusive disease (rest pain, ischemic ulceration or gangrene) is a common clinical problem facing the vascular surgeons. These patients usually have multiple co morbidities that preclude major bypass surgery, the gold standard of treatment. Many patients do not have adequate autogenous vein conduit to perform bypass surgery. Subintimal angioplasty (SIA) may be a reasonable alternative for this patient population. This study presents our center's experience using SIA for critical limb ischemia and reviews the technical and clinical success using this modality.

## **Methods:**

A retrospective chart review was performed for all patients that had critical lower extremity ischemia defined as rest pain, ischemic ulceration or gangrene, that were referred to our practice and underwent SIA as a primary therapy. Patient demographics, indications, technical and clinical success were reviewed and presented.

## **Results:**

163 patients underwent SIA in our institution for critical lower limb ischemia between December, 2002 and October, 2004. There were 86 males and 77 females with ages between 35.4 and 91.8 years (mean 69 years). Mean follow up was 4.3 months (0.1 to 20.4 months). Indication for the procedure was rest pain in 46 patients (28.2%), ulceration in 78 patients (47.9 %) and gangrene in 39 patients (24%). Technical success was achieved in 124 patients (76.1%). Minor procedure related complications happened

in 7 patients (4.3 %) with no need for further intervention. During follow up, there were 5 deaths (3.1 %) that were unrelated to the procedure. There were 24 amputations (14.7%) and 52 repeat revascularizations (31.9%) in the form of bypass in 23 (14.1%), repeat endovascular intervention in 20 (12.3%), or remote endarterectomy in 9 patients (5.5%) to control continued or recurrent symptoms. In no case was the surgical option altered by the use of SIA.

**Conclusions:**

Subintimal angioplasty is a reasonable alternative for patients with critical lower extremity ischemia. The procedure is safe and has a high rate of limb salvage with symptomatic relief in many of these patients. Furthermore, the performance of SIA, did not alter the decision, the level, or the outcome of any revascularization procedure needed post intervention to control the patients' residual or recurrent symptoms.