

Durability of percutaneous infrainguinal revascularization in the treatment spectrum of lower extremity ischemia

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Objective: Review the experience with balloon angioplasty with and without stenting in superficial femoral and popliteal artery occlusive disease.

Methods: A retrospective review was conducted of patients treated for disabling claudication, limb salvage, and blue toe syndrome by angioplasty with and without stenting of the superficial femoral or popliteal arteries within an endovascular surgery practice. Indications and procedural details were reviewed. Patients underwent clinical and duplex follow-up after intervention. Patency, limb salvage, and survival data are presented using life-table methods. Statistical comparisons were done using the log rank and student's *t*-test where appropriate.

Results: Between October 1998 and September 2004, 543 infrainguinal revascularization procedures were performed. In this 72 month period, 66 (12 %) percutaneous procedures were performed in 55 patients with a mean age of 67 ± 2.1 years and comprise the study group. Patients were selected for percutaneous revascularization for focal stenotic or occlusive lesions of less than 5 cm in the SFA or popliteal arteries. There were 28 males (51%) and 27 females (49%). The indications for the procedures included 32 (48.5%) for rest pain, ischemic ulceration, or gangrene; 27 (41%) for disabling claudication, 3 (4.5%) for blue toe syndrome, 3 (4.5%) for proximal inflow lesions above an infrageniculate bypass, and 1 (1.5%) for focal critical stenosis proximal to a prior treatment site. Intravascular ultrasound was used in 20 cases (30%) and stents were placed in 43 cases (65%). Cryoplasty was applied in 7 cases (11%). The treatment site was the SFA in 50 cases (76%) and the popliteal artery in 16 cases (24%). Technical success was achieved in 65 cases (98%). There was one acute failure (2%) that required open revascularization. Primary patency, limb salvage and survival at 24 months were 80%, 92%, and 46%, respectively. Pre-treatment ABI was 0.58 ± 0.07 compared with 0.92 ± 0.03 after intervention (mean \pm standard error; $p = 0.0004$)

Conclusions: In selected patients with focal lesions in the SFA or popliteal arteries, percutaneous revascularization is an acceptable treatment option with mid-term results that are comparable with open surgical revascularization.