ANGIOGRAPHIC RESTENOSIS AND ITS CLINICAL IMPACT AFTER BELOW-THE-KNEE ANGIOPLASTY

ACC Moderated Poster Contributions
McCormick Place South, Hall A
Saturday, March 24, 2012, 9:30 a.m.-10:30 a.m.

Session Title: Endovascular Therapy: State of the Science I
Abstract Category: 37. Endovascular Therapy
Presentation Number: 1123-39

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Background: Restenosis occurs at an extremely high rate early after angioplasty for below-the-knee (BTK) lesions; however, its clinical impact on patient and limb prognosis has not been systematically studied. This study's objective is to assess 3-month angiographic restenosis rate after BTK angioplasty and to evaluate the impact of restenosis on clinical outcomes.

Method: We analyzed 68 limbs from 63 consecutive patients (36 men, age: 75±9 years) with critical limb ischemia, presenting with isolated BTK lesions, who underwent successful angioplasty alone without bypass surgery. All follow-up angiography was scheduled at 3 months, and 3-month angiographic restenosis rate was the primary study endpoint. Secondary endpoints were 3-month rates of mortality, major amputation and reintervention. Additionally, we compared frequency of ambulatory status, frequency of freedom from ischemic symptoms at 3 months and time to wound healing in the ischemic wound group during the chronic phase. Also, factors associated with restenosis were assessed by multivariable analysis.

Results: Three-fourths of limbs (58/68) were complicated with non-healing ulcer or gangrene defined as Rutherford 5 or 6. Follow-up angiography at 3 months was conducted in 97% (61/63) of cases, and angiographic restenosis on a per limb basis was 66% (43/65). Restenosis rate on a per artery basis was 73% (74/101). A restenosis > 50% in 41% (41/101) and a re-occlusion in 32% (33/101) were observed. Three months after angioplasty, 31% (21/65) of patients remained without complete healing or had rest pain recurrence, and 40% (26/65) of limbs underwent reintervention within 3 months. By multivariate analysis, administration of cilostazol (hazard ratio, 0.21; 95% confidential interval: .07-.63; P=.0033) was a significant predictor for restenosis. Ambulatory status (80% vs. 49%, P=0.03) and limbs with complete healing (95% vs. 53%, P=.0006) were more frequently observed in the no-restenosis group than in the restenosis group.

Conclusion: The 3 months restenosis rate after BTK angioplasty was extremely high. Occurrence of restenosis in the early phase may adversely impact clinical status improvement after intervention.