Six Month Freedom from Amputation Rates Following Endovascular Tibial and Pedal Revascularization for Critical Limb Ischemia with Gangrene

Jisun J. Lee DPM MS[1],Anahita Dua MD MS MBA[2], Kara Rothenberg MD[2], Kedar Lavingia MD[2], Sapan S. Desai MD PhD MBA[3]

Division of Podiatry Surgery, Department of Surgery, VA Palo Alto Health Care System[1], Division of Vascular Surgery, Department of Surgery, Stanford University Hospital, Palo Alto, CA[2], Division of Vascular Surgery, Department of Surgery, Northwest Hospital, Arlington, IL[3]

Background

- Patients with critical limb ischemia (CLI) and gangrene have a 10-38% rate of major amputation and 40-80% rate of toe/partial foot amputations at 6 months even with intervention
- Many of these patients are classified as conventionally "non-revascularizable"
- Retrograde tibial access and pedal interventions in patients with CLI and gangrene may be viable options

Objective

- To report major and minor amputation rates after tibial and pedal revascularization in patients with CLI and gangrene
- To report objective quality of life scores before and after intervention

Methods

- Prospective study from June 2016 – Sept 2017
- Included all patients with CLI and gangrene who underwent antegrade or retrograde tibial access, atherectomy and angioplasty of the tibial circulation and angioplasty of pedal circulation
- Success defined as named vessel outflow to the foot without 30d reinterventions
- Follow-up at 1, 3, and 6 months with Stark QOL questionnaire, need for additional procedures, and amputation rate (major and minor)

Department of Veteran Affairs
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Results

Freedom From Amputation Rates (N = 57 limbs)

Follow-Up Period	Need for Amputation (%)
	Minor Amputation
1 month	15%
3 months	28%
6 months	33%
	Major Amputation
1 month	0%
3 months	2%
6 months	4%

Quality of Life Score (Stark Questionnaire)

Follow-Up Period	Quality of Life Score
Pre-Study	-1.3
1 month	-0.4
3 months	0.2
6 months	0.7

- 42 patients identified with CLI and gangrene
- All had </= 1 tibial vessel runoff and high grade stenoses of pedal circulation
  - 32 limbs with dry gangrene along the dorsalis pedis angiosome
  - 14 limbs with dry gangrene along the posterior tibial angiosome
  - 11 limbs with combined disease pattern
- 57 total peripheral interventions for limb salvage in 42 patients
- 49 limbs (86%) with immediate technical success including no complications at 30-days
  - 12 limbs had angioplasties at the SFA in conjunction with distal intervention
  - 18 limbs had angioplasty and stenting at the SFA in conjunction with distal intervention
  - 14 limbs had atherectomy, angioplasty, and stenting at the SFA in conjunction with distal intervention

Conclusion

- Aggressive tibial and pedal revascularization improves freedom from minor and major amputation at six months and is associated with a higher quality of life

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