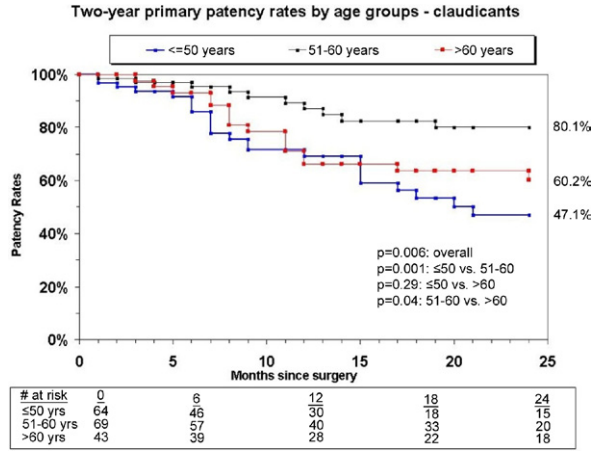
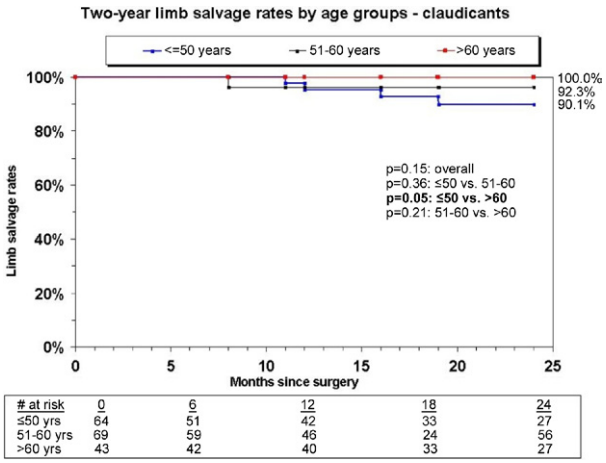
and CLI on presentation ($P = .002$). Age <50 was also an independent predictor of limb loss compared with age >60 ($P = .05$).

Conclusion: Endovascular options are commonly being used in young patients, especially claudicants, but patency rates and outcomes remain very poor.





Demographic and clinical characteristics by age group

Characteristics Patient level	*≤50 years (n = 97) Mean ± SD*	*51-60 years (n = 103) Mean ± SD*	*>60 years (n = 98) Mean ± SD*	P
Age at surgery, mean ± SD, y	45 ± 5	56 ± 3	73 ± 8	<.001
	% (No.)	*% (No.)*	*% (No.)*	
Male	57 (55)	65 (67)	63 (62)	.44
History				
CAD	43 (42)	55 (57)	62 (60)	.03
ESRD	6 (6)	19 (20)	13 (13)	.02
Hypertension	76 (74)	82 (84)	87 (85)	.17
Hypercholesterolemia	58 (56)	64 (66)	69 (60)	.28
Diabetes	38 (37)	43 (44)	62 (61)	.002
Smoking	83 (80)	79 (81)	62 (61)	.003
Hypercoagulable state	16 (15)	5 (5)	3 (2)	.004
Limb level	(n = 139)	(n = 151)	(n = 119)	
Procedure				
Percutaneous	40 (55)	52 (78)	52 (61)	.15
Open surgery	57 (79)	46 (69)	47 (57)	.15
Hybrid	3 (5)	2 (4)	1 (1)	.15
Indication				
Claudication	46 (64)	45 (68)	37 (42)	.16
Critical limb ischemia	54 (75)	54 (83)	63 (77)	.16

Comparison of Ultrasound Accelerated Thrombolysis Versus Simple Infusion Catheter Directed Thrombolysis for Acute Arterial Thrombosis

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Objectives: Catheter-directed intra-arterial thrombolysis for acute peripheral arterial ischemia has become a standard practice for acute arterial thrombosis. There has been significant amount of literature published as far as the choice of the thrombolytic agent and injection techniques. One technique used to accelerate thrombolysis is with the use of ultrasound imaging (EKOS). We looked at our experience to compare the outcomes with a simple side-hole infusion catheter (Unifuse) vs EKOS catheters.

Methods: We retrospectively reviewed our data set from January 2006 to August 2008 for all the patients undergoing catheter-directed thrombolysis for acute lower extremity arterial ischemia. The primary comparison variables were the duration of thrombolysis and technical success rate. The technical success rate was defined as complete or nearly complete clearance of clot burden allowing intervention in form of percutaneous transluminal angioplasty (PTA) and/or stenting. The data were also stratified according to the location of the thrombus, complications, mortality, and limb loss rates. Tissue plasminogen activator (TPA) was infused at 0.5 to 2.0 mg/h and patients underwent serial angiography every 12 to 24 hours.

Results: There were 69 cases of peripheral catheter-directed thrombolysis with the Unifuse catheter and 22 were performed using the EKOS catheter during the study period. The average duration of thrombolysis was 1.65 days (SD, 0.83) in the Unifuse catheter group vs 1.9 days (SD, 0.92) in the EKOS catheter group ($P = .22$). Technical success was achieved in 72% in the Unifuse group vs in 86% in the EKOS group ($P = .31$). Ten of 69 (14%) in Unifuse group and 2 of 22 (9%) in the EKOS group had limb loss ($P = .46$). Complications were compartment syndrome requiring fasciotomy and bleeding requiring premature cessation of thrombolysis. No deaths occurred as an immediate result of complications. The complication rate was 13% in the Unifuse group vs 10% in the EKOS group ($P = .46$).

Conclusions: There was no statistically significant difference in the outcomes in catheter-directed thrombolysis in the treatment of acute arterial ischemia using the Unifuse catheter vs the more expensive EKOS catheter.

Cryoplasty Offers No Advantage Over Standard Balloon Angioplasty for the Treatment of In-Stent Restenosis

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Objectives: In-stent restenosis is the primary failure mode of endovascular treatment of occlusive disease in the femoropopliteal segment. Cryoplasty has been proposed to reduce intimal hyperplasia through induction of apoptosis. We sought to evaluate the efficacy of cryoplasty for treatment of in-stent restenosis compared with conventional balloon angioplasty (CBA).

Methods: After IRB approval, a retrospective record review was performed of reinterventions for in-stent restenosis by a single vascular surgery group at a university hospital. Reinterventions involving cryoplasty and CBA were evaluated at 1, 3, 6, and 12 months after intervention with duplex imaging to identify significant recurrent stenosis utilizing established velocity criteria. Data collected included basic demographic information and comorbidities as well as time to restenosis. Statistical analysis was performed using Kaplan-Meier survival curves with the log rank test, Wilcoxon rank test, and Cox proportional hazards models.

Results: From December 2004 to November 2009, 76 reinterventions were performed using CBA (n = 39) or cryoplasty (n = 37) for in-stent restenosis without placement of additional stents. Periprocedural technical success (<30% residual stenosis) was 100% for both groups, with no complications. The two cohorts were statistically similar in mean age, gender distribution, comorbidities (including active tobacco use), and use of statins, aspirin, and Plavix. However, the mean lesion length was significantly longer in the cryoplasty cohort (CBA: 140.9 mm, Cryo: 191.7 mm; $P = .032$). The mean time to recurrent stenosis or need for additional secondary intervention was significantly shorter for the cryoplasty cohort than for the CBA, 4.09 and 10.79 months, respectively ($P = .0001$). Recurrent stenosis-free survival was significantly lower in the cryoplasty cohort at 3 months (CBA: 96.9%, Cryo: 88.9%) and 6 months (CBA: 84.0%, Cryo: 43.8%; $P = .0089$).

Conclusions: Cryoplasty as a modality for treatment of in-stent stenosis in the femoropopliteal segment offers no benefit over CBA.