

# Endovascular treatment versus femoropopliteal bypass surgery outcomes for TASC II C lesions of the superficial femoral artery

Onur Saydam<sup>1</sup>, Deniz Serefli<sup>1</sup>, A. YaprakEngin<sup>1</sup>, Mehmet Atay<sup>2</sup>

<sup>1</sup> Tepecik Training and Research Hospital Department of Cardiovascular Surgery / Turkey

<sup>2</sup> Bakirkoy Dr Sadi Konuk Training and Research Hospital Department of Cardiovascular Surgery Istanbul / Turkey

## Introduction

Revascularization is mandatory for patients with severe claudication and critical limb ischemia. Femoropopliteal lesions and Revascularization were classified in the Trans-Atlantic Inter-Society Consensus II (TASC II) guidelines. In the TASC II classification, there are strong recommendations for TASC II A, B and D lesions. However, the existing data comparing the endovascular treatment (ET) to the femoropopliteal artery bypass (FPB), especially on the TASC II C femoropopliteal lesions, are not sufficient. In this study we aim to compare the outcomes of ET and FPB in patients with TASC II C femoropopliteal lesions.

## Methods

This retrospective, single-center study included a total of 149

patients with symptomatic TASC II C femoropopliteal lesions. Of these, 46 patients were treated with ET and 103 were treated with FPB between January 2012 and January 2017. The primary outcome measures were primary and secondary patency.

## Results

The mean length of the lesions was 23.9±5.3cm in the ET group and 25.5±4.6cm in the FPB group (p=0.07). The primary success rates for ET and FPB were both 100%, and early revascularization was not necessary for any patient. Primary patency at 6, 12, 18, and 24 months was 93.5%, 89.0%, 70.1% and 69.5%, respectively, for ET, and 86.4%, 81.5%, 76.7% and 72.8%, respectively, for FPB (p>0.05).

Secondary patency rates for ET at 6, 12, 18 and 24 months were 97.8%, 93.5%, 87% and 84.8%, respectively, and 96.1%, 90.3%, 81.6 and 79.6%, respectively, for the FPB group (p=0.41).

## Conclusion

ET is a safe and more cost-effective choice of treatment than FPB with similar primary and secondary patency rates in TASC II C patients.

	Endovascular Treatment (n=46)	Femoropopliteal Bypass (n=103)	P value
Age(y)	64.3±10.3	62.9±8.2	NS
Males	34 (73.9%)	82 (79.6%)	NS
BMI	23.7±2.5	24.4±2.7	NS
Hypertension	35 (81.4%)	68 (66.0%)	NS
Hypertipidemia	32 (69.5%)	68 (66.0%)	NS
CAD			
PCI	20 (43.4%)	36 (34.9%)	NS
CABG	4 (8.7%)	15 (14.6%)	NS
IDDM	29 (63.0%)	87 (84.5%)	P=0.001
COPD	11 (23.9%)	27 (26.2%)	NS
ESRF	4 (8.7%)	18 (17.5%)	NS
Current Smoker	34(73.9%)	76 (73.8%)	NS

NS; non-significant, Y; year, BMI; body mass index, CAD; coronary artery disease, PCI; percutaneous coronary intervention, CABG; coronary artery bypass graft surgery, IDMM; insulin-dependent diabetes mellitus, COPD; chronic obstructive pulmonary disease, ESRF; end-stage renal failure

	Endovascular Treatment (n=46)	Femoropopliteal Bypass (n=103)	P value
Mean Procedural Duration (minute)	46.1±22.9	51.5±5.9	p=0.03
Mean In-Hospital Stay (days)	1.4±0.7	7.2±4.8	p<0.001
Complication	6 (15.2%)	11 (10.7%)	NS
Reintervention	15 (32.6%)	28 (27.2%)	NS
Cost (US Dollars)	1346±560.4	1544.2±184.1	p=0.02
Major Amputation	2 (4.3%)	11 (10.7%)	NS
All-Cause Mortality	0	2	NS

	6 months	12 months	18 months	24 months	P value
Primary Patency					
Endovascular Treatment	93.5%	89.0%	70.1%	69.5%	NS
Femoropopliteal Bypass	86.4%	81.5%	76.7%	72.8%	
Secondary Patency					
Endovascular Treatment	97.8	93.5%	87%	84.8%	NS
Femoropopliteal Bypass	96.1%	90.3%	81.6%	79.6%	
Limb salvage					
Endovascular Treatment				91.3%	NS
Femoropopliteal Bypass				85.4%	