



RUTGERS

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Is There Still A Role For Femoral-Femoral Artery Bypass In The Current Endovascular World?

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Objective

Aortoiliac occlusive disease (AIOD) is the chronic accumulation of atherosclerotic plaques of the aorta and iliac arteries resulting in potentially disabling claudication and limb ischemia, which can severely impact quality of life. Existing guidelines have not reached a consensus on optimal surgical management of AIOD. In recent years, endovascular techniques have become increasingly favorable as an alternative to open bypass surgery, which is traditionally regarded as the gold standard. While open surgery is a durable and effective option for AIOD, endovascular approaches are considered more favorable for patients who have a higher surgical risk. The objective of this study is to compare the peri- and post-operative outcomes of bilateral iliac artery kissing stents (KS) to femoral-femoral artery bypass (FFB) for treatment of unilateral AIOD.

Methods

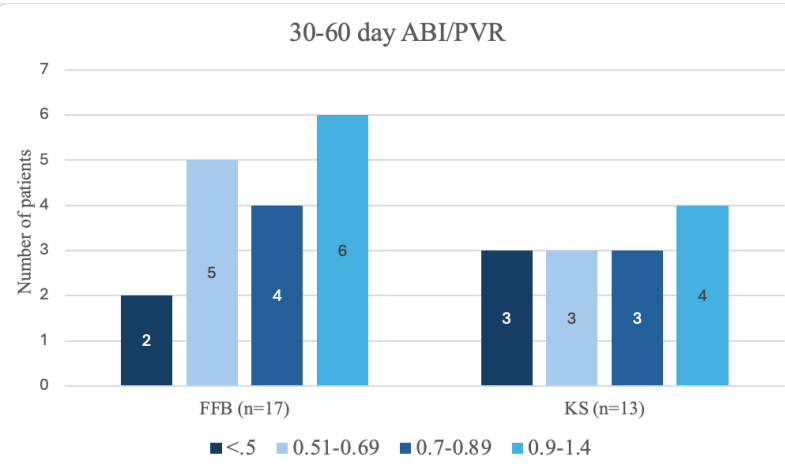
This is a single institution, retrospective chart review performed between 2011-2022 on patients ages 18-90 with unilateral AIOD treated with either FFB or KS. Patients treated for aneurysm, acute thrombosis, or graft infections were excluded. Statistical analysis includes chi square and two tailed t-test. Patient demographics, complications, patency rates (determined via ABI/PVR), 30-day reintervention rates, and 30-day mortality rates were evaluated.

Demographic data, comorbidities, and risk factors for atherosclerosis

	FFB (n=51)	KS (n=42)	P
Age	66.96 (46-86)	66.86 (41-93)	.96 ^a
Gender (M)	52.94% (27)	48.15% (19)	.46 ^b
Hypertension	92.16% (47)	80.95% (34)	.11 ^b
Hyperlipidemia	76.47% (39)	64.29% (27)	.19 ^b
Diabetes mellitus	39.22% (20)	45.24% (19)	.56 ^b
Coronary artery disease	25.49% (13)	38.09% (16)	.19 ^b
Chronic kidney disease	4% (2)	4.76% (2)	.84 ^b
Tobacco use (current)	24.41% (15)	23.81% (10)	.73 ^b
Tobacco use (former)	21.57% (11)	19.05% (8)	

a= Two tailed t-test
b= Chi square

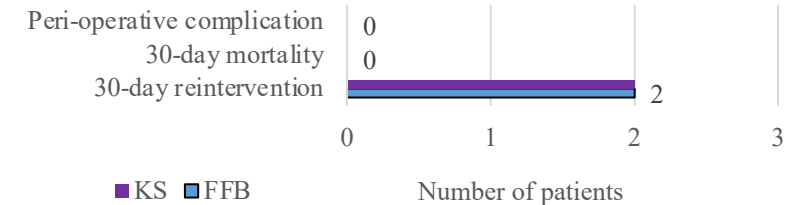
Indication:	FFB (n=51)	KS (n=42)	P
PAD (unspecified)	41.18% (21)	54.76% (23)	.12 ^b
Rest pain	11.76% (6)	11.9% (5)	
Claudication	29.41% (15)	30.95% (13)	
Ischemia	17.65% (9)	2.38% (1)	



Results

Of a total of 93 patients who were evaluated in this cohort for symptomatic AIOD, 51 underwent FFB and 42 underwent KS. Patients who underwent FFB had a higher rate of hypertension (92.16% vs 80.95% in KS), whereas patients in the KS group had a higher rate of coronary artery disease (38.1% vs 25.5% in FFB). There were no perioperative complications or technical failures. In the FFB group, there was one graft removal due to infection and one below knee amputation within 30 days. In the KS group, there was one femoral endarterectomy with patch angioplasty performed in addition to endovascular treatment and one stent thrombosis converted to bypass within 30 days. There were no mortalities within 30 days. ABI/PVR at 30-60 days postop showed 6 FFB patients (n=17) and 4 KS patients (n=13) with ABIs 0.9-1.4 (p=.87).

Operative Outcomes



Conclusions

In this single center study, endovascular KS and open FFB patient groups were found to have similar demographics and endpoints. The similarity between patient populations as well as complications, reintervention rates, and mortality rates indicates that there is still a role for both open and endovascular treatment options for AIOD. Therefore, FFB remains a valuable revascularization option. Inclusion of patients from other institutions, acute limb ischemia data, and more comprehensive follow up data would be valuable in future research.