An overview of iliofemoral bypasses at a single institution

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OBJECTIVES

To evaluate outcomes, and the pre-, intra-, and post-operative conditions contributing to those outcomes, of all iliofemoral bypasses performed by a single surgeon at a single institution.

BACKGROUND

Originally thought to be best applicable to older patients with higher operative risk for whom longer, more intensive operations may be unsuitable and for whom less invasive procedures may not be as effective.

Other options include percutaneous transluminal dilatation, endarterectomy, endovascular stenting, femorofemoral bypass (5-year primary patency 81%) [1], axillofemoral bypass (3-year primary patency 54%) [2], and aortobifemoral bypass (5-year primary patency 86.2%) [3].

METHODS

Data was collected from all patients undergoing iliofemoral bypass at the Central Arkansas Veterans Healthcare System under a single surgeon from 1996 – 2021, 127 patients. Collected data included information about pre-operative disposition, intraoperative conditions and surgical methods, and postoperative complications and outcomes. Major endpoints included survival length, length of follow-up, follow-up procedures required, and bypass patency rates.

Pre- and postoperative data points were compared using the paired t-test. Patency rates were calculated with censoring for deceased patients and were further analyzed into survival curves using Kaplan-Meier survival analysis.

REFERENCES

1Nazzal MM, Hoballah JJ, Jacobovicz C, Mohan CR, Martinasevic M, Ryan SM, et al. A comparative evaluation of femorofemoral crossover bypass and iliofemoral bypass for unilateral iliac artery occlusive disease. Angiology 1998;49(4):259-265.

[2]Donaldson MC, Louras JC, Bucknam CA, Axillofemoral bypass: A tool with a limited role. Journal of Vascular Surgery 1986;3(5):757-763.

[3]Lee GC, Yang SS, Park KM, Park Y, Kim YW, Park KB, Park HS, Do YS, Kim DI. Ten year outcomes after bypass surgery in aortoiliac occlusive disease. J Korean Surg Soc. 2012 Jun;82(6):365-9. doi: 10.4174/jkss.2012.82.6.365. Epub 2012 May 29. PMID: 22708098; PMCID: PMC3373986.

RESULTS

Table 1. Secondary procedures at time of bypass

	Number (n)	*Percent of All Patients (%)*
Patients with Secondary Ipsilateral Procedures	88	69.3
Patients with Secondary Contralateral Procedures	6	4.7

Figure 1. Secondary ipsilateral procedures

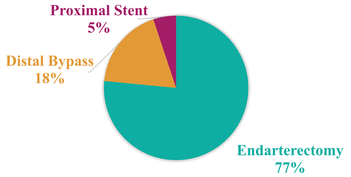
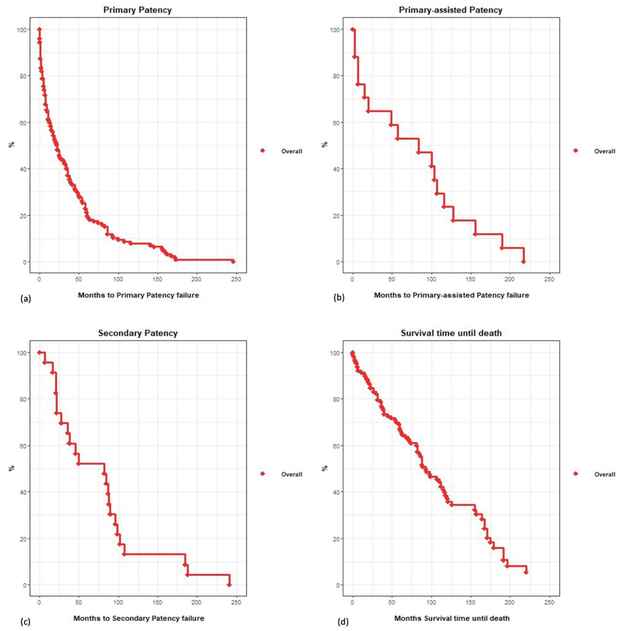


Table 2. Pre- and Postoperative Ankle-Brachial Index

	M	SD	p-value
Preoperative	0.389	0.15	
Postoperative	0.765	0.23	
Post – Preoperative	0.3749	0.2054	< 0.0001
Most Recent Follow-Up	0.698	0.24	

Figure 2. a) Primary patency, b) Primary-assisted patency, c) Secondary patency, d) Patient survival



A total of 46 patients (36.2%) experienced postoperative complications, and 58 patients (45.7%) required subsequent revascularization procedures.

Figure 3. Follow-up procedures

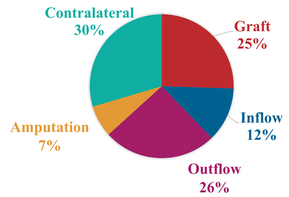
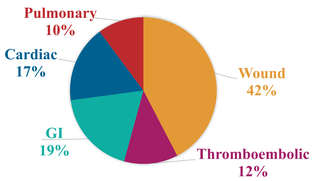


Figure 4. Postoperative complications



CONCLUSIONS

Bypass with subsequent close follow-up and early initiation of measures to prevent graft failure resulted in 5-year graft patency over twice primary alone at 81.8%.

With regular follow-up and early reintervention, this procedure can result in excellent patency without the recurrence of occlusive symptoms, restoring excellent quality of life to these patients.