



OUTCOME ANALYSIS OF FEMORO-FEMORAL CROSSOVER BYPASS IN PATIENTS WITH CHRONIC LIMB ISCHEMIA

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ABSTRACT

Since the introduction of femorofemoral crossover bypass by Freeman and Leeds in 1952, it has been used as an alternative to anatomic reconstruction for high risk patient with unilateral iliac occlusive disease. At present, most patients with symptomatic iliac stenosis or occlusion are treated primarily with angioplasty and stenting. However, open surgical treatment is still recommended for a long iliac occlusion. Our study is Outcome analysis of femoro-femoral bypass in patients with chronic limb ischemia. Total of 22 patients were included, all of our patients were male (22/22) with main risk factors as smoking and diabetes mellitus. Out of these, 64% (14/22) had chronic limb threatening ischemia and 36% were claudicants. 55% of our patients more than 60 years of age. Patency rates and limb salvage rate were 90% and 95% respectively with no perioperative mortality indicating good results with femoro-femoral cross over bypass.

KEYWORDS : Femoro-Femoro Crossover Bypass, Limb Ischemia

INTRODUCTION:

Since the introduction of femorofemoral crossover bypass (FCB) by Freeman and Leeds in 1952 [1], it has been used as an alternative to anatomic reconstruction for high risk patient with unilateral iliac occlusive disease. At present, most patients with symptomatic iliac stenosis or occlusion are treated primarily with angioplasty and stenting [2]. However, open surgical treatment is still recommended for a long iliac occlusion [3]. Chronic limb ischemia indicates peripheral arterial disease of more than three months duration with reduced blood supply and tissue perfusion to lower limb structures. These patients need revascularization procedures for their limb salvage. Peripheral arterial disease (PAD), defined as chronic occlusive disease of the lower extremities, is a major and growing health problem, estimated to affect more than 200 million individuals around the globe. Aging of the world's population, combined with diabetes, smoking, dyslipidemia, and hypertension are the critical risk factors and significant socio-economic disparities exist [4-7].

MATERIALS AND METHODS:

This is a Prospective study which analyzes the outcome of femoro-femoral crossover bypass in patients with chronic limb ischemia. Those patients with chronic limb ischemia admitted in vascular surgery department during past three years (2019-2022) with long segment unilateral iliac artery occlusions not amenable for endovascular procedures, who underwent primary femoro-femoral cross over bypasses were included. Redo surgeries, intervention following endovascular procedures and sequential bypass cases were excluded from study. There were totally 22 patients included in the study. Average follow-up in our study was 12 months. Patients were regularly followed for wound healing, improvement in ankle-brachial index, graft patency and limb salvage.

RESULTS AND DISCUSSION:

Different surgical approaches can be used to treat unilateral iliac artery occlusion. Aortofemoral bypass is the procedure of choice in patients with severe iliac occlusive disease and who are at a low risk for a surgical procedure. More recently percutaneous transluminal angioplasty and stenting were introduced to treat stenosis and occlusion of TASC (Trans-Atlantic Inter-Society Consensus) A or B in unilateral iliac occlusive disease. At present, the main anatomic indications to this surgical procedure are derived from the TASC II recommendations. The indications for surgery are long segment unilateral iliac disease corresponding to type C or D lesion [4]. FCB represents a valuable alternative option to anatomic bypass for unilateral iliac occlusive disease in patients with prohibitive surgical risks for aortic surgery or a poor general condition, coronary artery disease, chronic obstructive pulmonary disease or a local condition such as a hostile abdomen, sepsis or a porcelain aorta [5,6,8].

Total of 22 patients were included, all of our patients were male (22/22)

with main risk factors as smoking and diabetes mellitus. Out of these, 64% (14/22) had chronic limb threatening ischemia and 36% were claudicants. 55% of our patients more than 60 years of age. Patency rates and limb salvage rate were 90% and 95% respectively with no perioperative mortality indicating good results with femoro-femoral cross over bypass. Figure-1 shows femoro-femoral cross over bypass with Dacron synthetic vascular graft and Figure-2 shows femoro-femoral cross over bypass with PTFE (Poly Tetra Fluoro Ethylene) graft. Several of features were shown in table-1.



Figure-1: Femorofemoro Bypass With Dacron Graft



Figure-2: Femorofemoro Bypass With PTFE Graft

Table-1: Various Characteristics Of Patients Who Underwent Infrainguinal Bypass

S. No	Features	Number (out of 22)	Percentage (%)
1	Gender: A) Male	22	100%
	B) Female	0	0
2	Age groups: A) 41-50 years	2	9%
	B) 51-60 years	13	59%
	C) 61-70 years	4	18%
	D) 71-80 years	3	14%
3	Ischemia severity: A) claudicant	8	36%
	B) chronic limb threatening ischemia	14	64%
4	Risk factors: A) Smoking	17	77%

	B) Diabetes mellitus	10	33%
6	Graft Material: A) Dacron	11	50%
	B) PTFE	11	50%
7	Limb Side Affected: A) RIGHT	4	18%
	B) LEFT	18	82%
8	PATENCY: A) Patent Graft	20	90%
	B) Occluded Graft	2	10%
9	LIMB SALVAGE: A) SAVED	21	95%
	B) LOST	1	5%
10	MORTALITY	0	0

There were three complications in our study one was seroma collection in groin treated by aspiration and two had graft exposed who were treated successfully by sartorial flap cover. We have patency rate of 90% and 95% limb salvage rate indicating good results with femoro-femoral cross over bypass surgery. In this study, no predictors and influencing factors for the patency rates were identified as we have just graft occlusion in only two patients. Out of two graft occlusion, one patient had no complaints or deterioration of his condition but other patient lost his limb (below knee amputation) due to super added diabetic foot infection. There was no mortality in our study perioperatively or during followup.

CONCLUSION:

Our study shows femoro-femoral cross over bypass has good patency and limb salvage rates with very few complications and mortality. It has its role even in the era of endovascular surgeries.

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