Contralateral Femoral Artery Inflow For Lower Extremity Infra-inguinal Revascularization

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Introduction

- Patients with infra-inguinal limb threatening ischemia and a hostile ipsilateral groin, present a difficult challenge for revascularization.
- A seldom mentioned but elegant solution is to use of the contralateral femoral artery for inflow.

Aim

- Evaluate a series of six patients who **had contralateral femoral artery inflow for infra-inguinal bypass.**
- Does this procedure necessitate a large amount of additional conduit?

Methods

- Retrospective chart review of six patients who underwent lower extremity revascularization using contralateral femoral artery inflow was conducted.
- Clinical characteristics including pre- and post-ABIs, patency and complications were assessed.
- 50 randomly selected aortograms performed between 2016 to 2021 were reviewed. A straight-line measurement was made between the common femoral arteries just proximal to the femoral bifurcations, **Figure 1.**

Results

- Six patients with a median age of 63 (50-77) successfully underwent lower extremity revascularization with contralateral femoral artery inflow.
- Their presenting symptoms, contraindications to ipsilateral bypass and pre- and post-operative ABIs, as well as post operative complications and overall patency are tabulated, **Table 1.**

Table 1. Summary of chart review of the 6 patients who underwent lower extremity bypass using contralateral femoral inflow, including the rationale and post operative outcomes.

Patient	Presenting Symptom(s)	Contraindication to Ipsilateral Bypass	Contralateral Inflow Bypass	Conduit	Pre-ABI	Post-ABI	Complications	Patency (Years)
1	Claudication, Rest Pain	Hostile Groin (secondary to XRT)	Left CFA to Right Popliteal	Right Cephalic, Right Bascilic	N/A	0.8	Wound Infection	4.75
2	Rest Pain	No Vascularized Ipsilateral Femoral Vessel	Right DFA to Left Popliteal	Left GSV	0	0.8	None	1.2
3	Non-healing foot wound	No Vascularized Ipsilateral Femoral Vessel	Left CFA to Right Popliteal	Right Cephalic, Right Basilic, Right GSV	0.39	1.2	Bypass thrombosis	1.6
4	Rest Pain	Inadequate ipsilateral DFA	Right DFA to Left PT	Right GSV	0	1	Bypass thrombosis	8.5
5	Rest Pain	Inadequate ipsilateral DFA	Left CFA to Right AT	GSV, Arm Vein	0.3	1	Right thigh infection	2.25
6	Acute Limb Ischemia	Previous patch repair left CFA with infection	Right CFA to Left BK Pop.	GSV	0	0.7	None	1.8

Gender	Age (years)	Distance (cm)	Standard Deviation (cm)
Female	70.9	14.1	1
Male	68.9	14.5	0.6

Table 2. Average femoral-femoral distance for women was 14.1 cm (standard deviation 1.0 cm) and men 14.5 cm (standard deviation 0.6 cm).

Conclusions and Clinical Implications

- Contralateral femoral artery inflow for infra-inguinal bypass is a simple viable solution for an ipsilateral hostile groin.
- This small series suggests that this option can provide long-term patency while utilizing only a small amount of additional conduit.