

SUPERFICIAL FEMORAL ARTERY OPPORTUNISTIC STUMP

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The treatment of patients with critical ischaemia unfit for surgery, in which endovascular is unfeasible or associated with considerable complications, is very challenging.

Additionally, endovascular treatment of unfit patients with flush occlusion of the superficial femoral artery (SFA) can be particularly problematic, with poorer outcomes and higher complication rates. In the recent Global Limb Anatomic Staging System (GLASS), a SFA flush occlusion is categorized as a GLASS stage II or III, which are associated with higher technical failure rates

and lower 1-year limb-based patency.^{1,2}

In such patients, the idea is to minimize critical ischaemia and achieve limb salvage. For that, unusual solutions must be explored.

For patients scheduled for common femoral artery (CFA) endarterectomy with proximal long occlusion of the superficial femoral artery, we propose the routine creation of an opportunistic stump in the superficial femoral artery, thus facilitating future endovascular interventions, if ever needed.

This technique can also be used in other surgeries

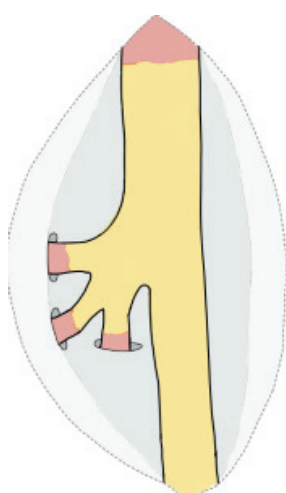


Figure 1

CFA occlusion, profunda femoris artery (PFA) ostial occlusion and SFA proximal occlusion.

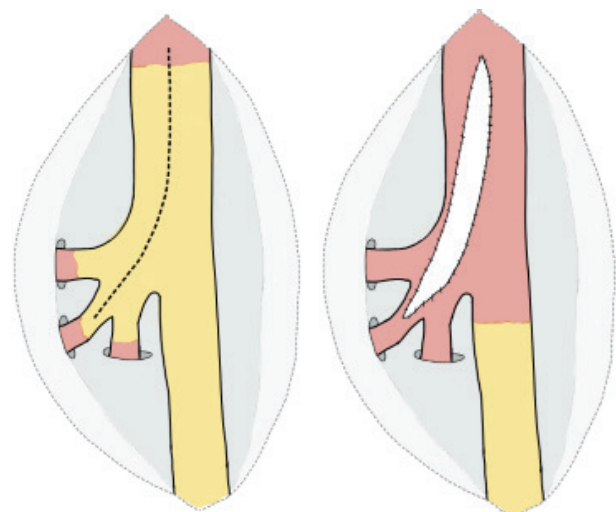


Figure 2

CFA and proximal PFA endarterectomy with "SFA opportunistic stump creation" and patch angioplasty.

with a femoral approach such as aorto-bi-femoral bypass, femoro-femoral bypass, femoro-popliteal or femoro-distal bypass (allowing a chance for a future endovascular intervention before bypass redo in case of bypass occlusion), with the same purpose which is to facilitate future endovascular interventions.

INTRODUCTION

After exposure and clamping of the common femoral, superficial femoral and profunda femoris arteries, a longitudinal arteriotomy and sequential femoral endarterectomy is performed.

Consecutively, a small stump is created at the origin of the superficial femoral artery using a curved Kelly forceps. The stump should be greater than 1 cm from the origin of the profunda femoris, and intimal flaps should be amended. Generous flushing with heparinized saline solution is recommended.

Femoral patch angioplasty or femoral anastomosis can be completed using the standard technique.

In this fashion, a small stump is created at the origin of the superficial femoral artery.

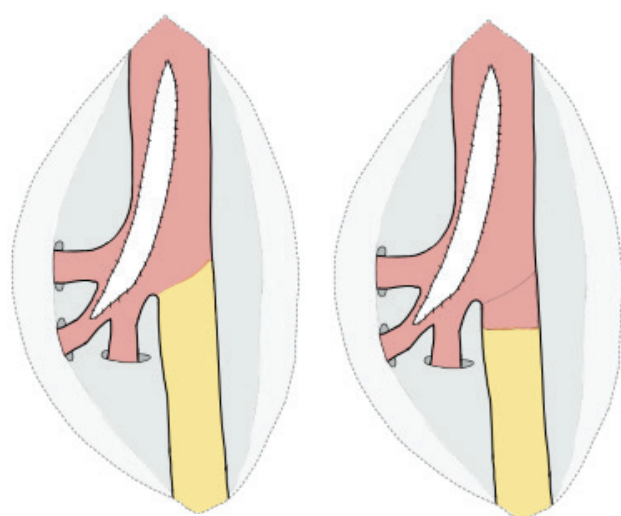


Figure 3

Comparison between "normal endarterectomy" and endarterectomy with "SFA opportunistic stump".

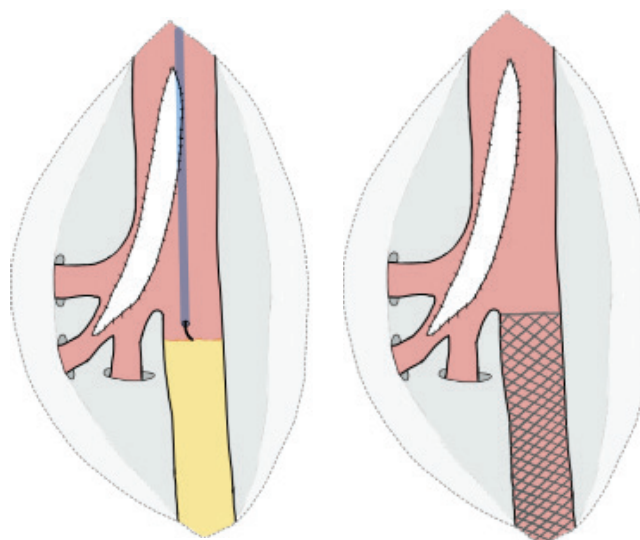


Figure 4

SFA stump simplifies future endovascular interventions, enabling a safer angioplasty and/or stent deployment.

CLINICAL CASE

One of the patients in which this technique was performed was an old patient unfit for bypass surgery with CFA occlusion, PFA proximal occlusion and long occlusion of the SFA in the right lower limb. Additionally, he had occlusion of the 2nd portion of the right popliteal artery.

Occasional paresthesias and rest pain with a small ulcer in the right first toe.

Common femoral artery endarterectomy and profundoplasty with PTFE patch under local anesthesia was performed, followed by careful wait-and-see clinical evolution.

Intraoperatively it was decided an SFA opportunistic stump creation with a small stump (more or less 2 cm) at the origin of the superficial femoral artery, favoring a safer future femoropopliteal endovascular intervention, if necessary.

Rest pain was resolved but the ulcer persisted. As a result, angioplasty and stenting of the superficial femoral artery and angioplasty of the popliteal artery was performed two months afterwards in an ambulatory setting, by contra-lateral femoral approach.

The ulcer healed approximately one month after the endovascular procedure.

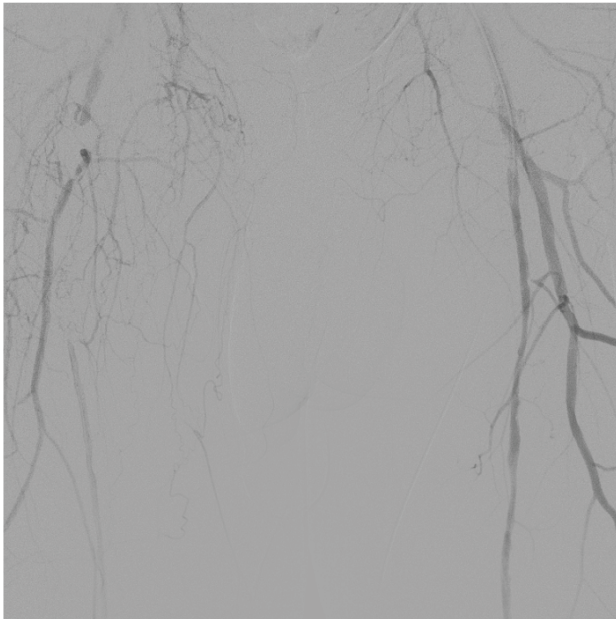


Figure 5 Initial arteriography revealing CFA occlusion, PFA proximal occlusion and SFA long occlusion.



Figure 7 Arteriography after common femoral artery endarterectomy and profundoplasty with creation of a SFA opportunistic stump.

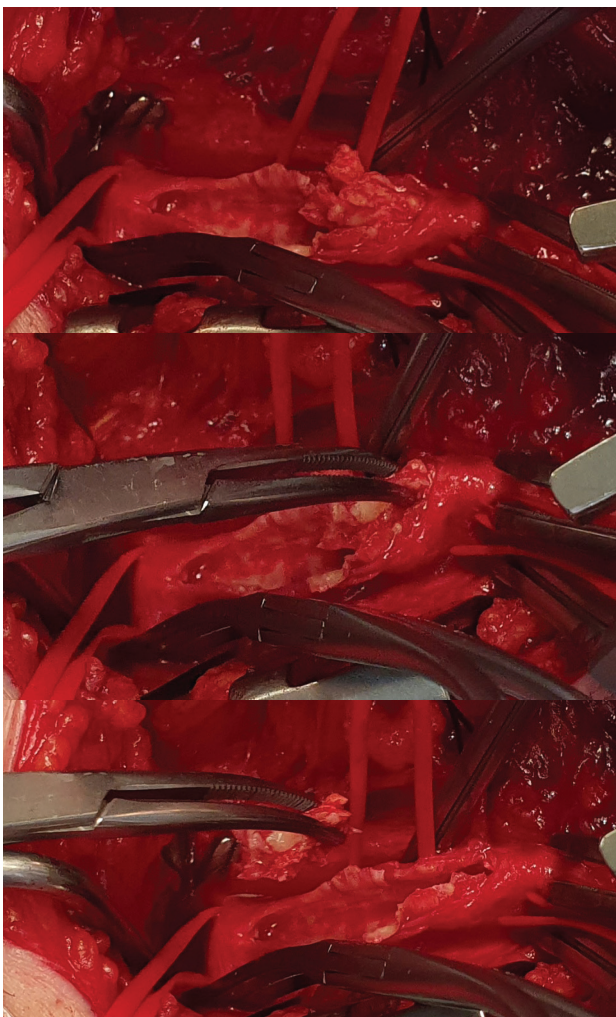


Figure 6 SFA Opportunistic stump creation using a curved Kelly forceps.

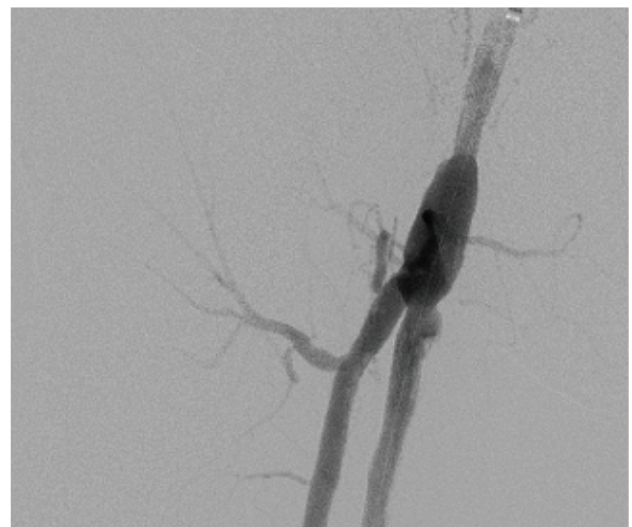


Figure 8 End result after SFA angioplasty and stenting.

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2. Ghoneim B, Younis S, Elmahdy H, Elwan H, Khairy H. Endovascular intervention in flush superficial femoral artery occlusive disease: challenges and outcome. *Ital J Vasc Endovasc Surg* 2019;26:22-32. DOI: 10.23736/S1824-4777.18.01368-2.