

Improved Health-Related Quality of Life with Superficial Femoral Artery Stenting in Intermittent Claudication Done Prior to Medical Treatment: A Case Report

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ABSTRACT

In cases involving TASC A lesions of the superficial femoral artery (SFA), the conventional approach typically starts with medical therapy and supervised exercise. When these measures fail to yield the desired results, endovascular procedures may be contemplated. However, in the distinctive case of a 68-year-old male, endovascular therapy was employed to reestablish blood flow through the obstructed SFA segment. This intervention substantially improved the patient's ability to walk. Subsequently, the patient continued with optimal medical therapy. This integrated approach, beginning with SFA stenting followed by conservative care, promptly alleviated claudication-related symptoms, ultimately resulting in an enhanced quality of life.

Keywords: Femoral Artery; Hemodynamics; Intermittent Claudication

INTRODUCTION

Intermittent claudication is a common symptom of lower extremity arterial disease, causing recurrent leg pain during physical activity and impacting daily life. In advanced stages, it may lead to severe symptoms like ulcers and gangrene. Globally, there are around 202 million people with peripheral artery disease (PAD), mainly in low- and middle- income countries. Initial management typically involves medical therapy and lifestyle changes. Surgical revascularization is effective but risky, reserved for non-responsive patients. Endovascular therapy is now challenging conservative measures,

with lower risks. This case report discusses a patient with peripheral artery disease who underwent endovascular treatment alongside medical therapy for chronic occlusive disease in the superficial femoral artery, alleviating intermittent claudication.^{1,2,3,4}

CASE REPORT

The patient is a 68-year-old male residing in the rural aspect of the Lalitpur district with a history of Type 2 diabetes mellitus without diabetic nephropathy. He is an ex-smoker with pack years of 20. The

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patient had complained of crampy sensations and pain in the right lower leg and foot. These symptoms used to occur consistently after walking for 8-10 minutes (approximately 200 meters) which usually got relieved within 2-5 minutes of rest. However no complains of similar pain were noted at rest or with a simple change in position (standing). He also had experienced dry skin and cold feet. There was a noticeably diminished pulse in the dorsalis pedis artery on the right side, in contrast to normal pulses on the left. Markedly reduced ankle-brachial index (ABI) of 0.42 on the right and a normal ABI of 1.2 on the left. Physical examination of the right lower limb demonstrated signs of poor circulation,

including cold, thin, and pale skin with reduced hair, along with a prolonged capillary refill time of 5 seconds. While no evidence of tissue loss like ulcers/gangrenous lesions were present, these findings collectively point to PAD on the right side, necessitating immediate evaluation. The lower limb arterial Doppler findings reveal a complete occlusive thrombus in the distal third of the SFA with a tardus parvus waveform pattern in the popliteal artery, anterior tibial artery and posterior tibial artery suggesting total occlusion of SFA blockage with few collateral formation. CT lower limb angiogram also revealed a similar finding as shown in figure 1.

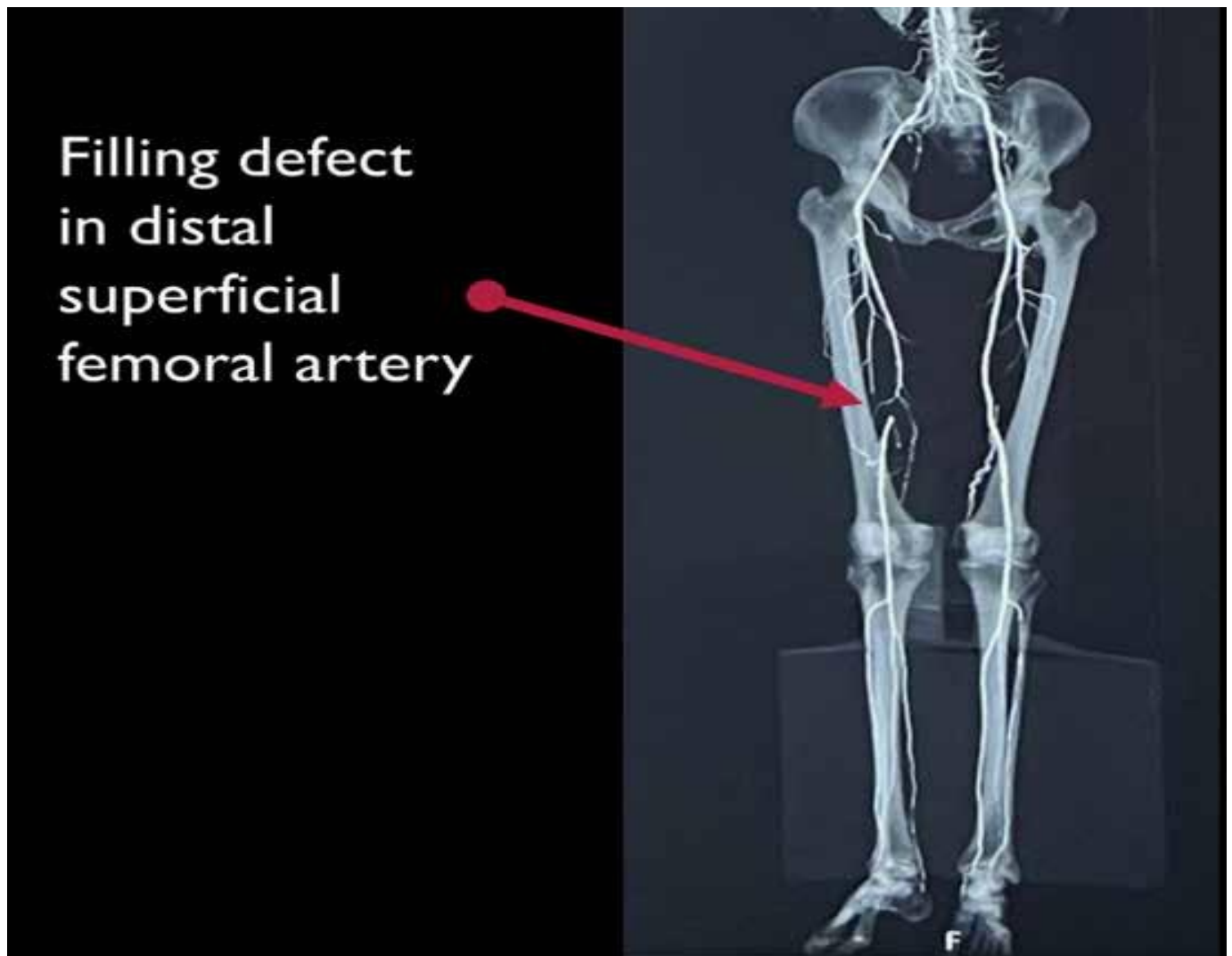


Figure 1: CT Angiogram of bilateral lower limb showing a 5 cm sized filling defect in the course of the distal superficial artery suggesting total occlusion

With the diagnosis of SFA occlusion, the patient was counseled regarding an alternative approach for the treatment of the condition. Since the short segment of the SFA was occluded endovascular revascularisation was put forward as one of the options for treatment. The patient opted for the

simultaneous use of endovascular revascularisation and medical treatment for ameliorating his bothering symptoms of intermittent claudication. So the patient was planned procedure of stenting of the occluded superficial femoral artery was done successfully without any immediate complications. (Figure 2)

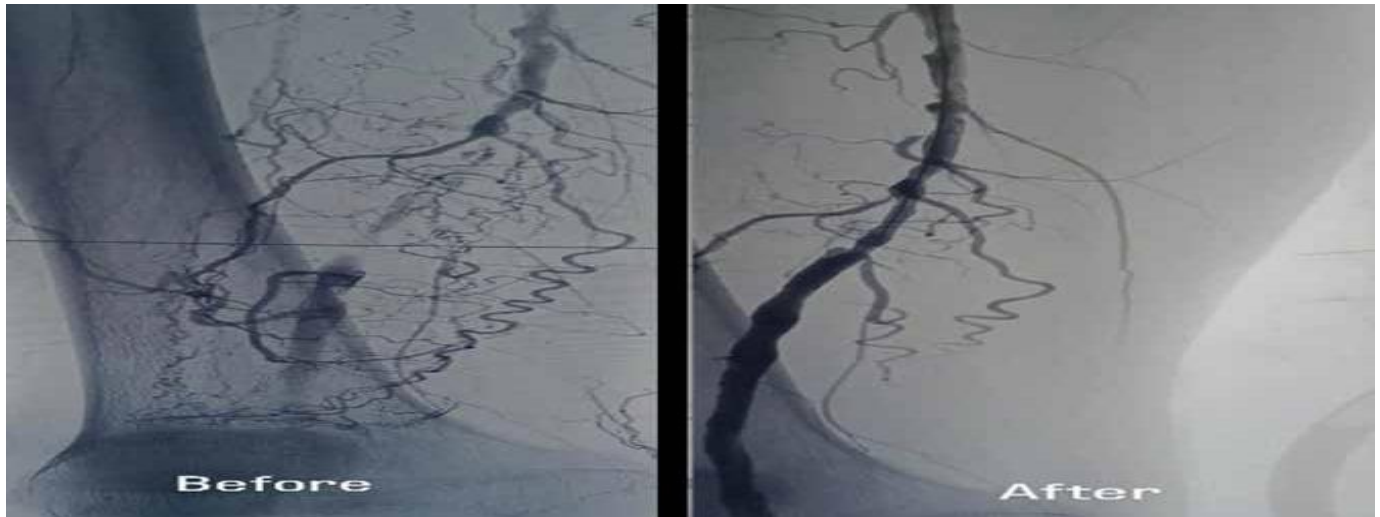


Figure 2: Pre- and post-endovascular treatment angiography. Occluded distal superficial femoral artery (white arrow) with popliteal artery perfused by collateral vessels (angled arrow) in A. Successful revascularization of the superficial femoral artery is shown in B

After endovascular therapy, the right ABI showed significant improvement and his intermittent claudication disappeared. He was started on aspirin 100 mg/day and clopidogrel 75 mg/day as dual antiplatelet therapy. He was discharged 5 days later without any complications. After 1 month, the follow-up USG Doppler study revealed a patent stent at the distal superficial femoral artery and any complications at the antegrade puncture site.

DISCUSSION

Intermittent claudication is a condition linked to arterial blockages in the lower extremities, leading to pain during physical activity, especially walking. This discomfort limits one's walking distance and significantly diminishes their overall health-related quality of life. The case's SFA occlusion falls under the TASC A category for femoropopliteal disease, a common location for peripheral arterial disease. While medical treatment and exercise help many patients, those with severe intermittent claudication or critical limb ischemia often require

endovascular or surgical revascularization. One of the randomized control trials by Spronk et al. has shown that endovascular revascularization or supervised hospital-based exercise in patients with claudication yielded similar benefits in terms of clinical success, functional capacity, and quality of life after 6 and 12 months of follow-up, with faster results for revascularization. In a population-based study done by Djerf et al the likelihood of procedure-related complications including major amputation within the initial year following revascularization for intermittent claudication is minimal. Similarly a randomized control trial by Lindgren et al. concluded that in patients with intermittent claudication caused by lesions in the SFA primary stenting compared to BMT alone was associated with significant improvements in health-related quality of life, ABI, and walking distance durable up to 24 months of follow-up. In this case, initial revascularisation procedure followed by medical therapy has significantly improved the quality of life. Stenting the superficial femoral artery offers several notable advantages for

individuals experiencing intermittent claudication. Firstly, it promotes improved blood flow by opening narrowed or blocked arteries, which effectively relieves symptoms such as pain and discomfort. This enhanced blood circulation translates into increased mobility, allowing patients to engage in physical activities and daily tasks more comfortably, fostering a greater sense of independence and overall well-being. Moreover, pain reduction is a significant outcome, as alleviating the pain associated with intermittent claudication can lead to a notable enhancement in health-related quality of life by enabling a more active and pain-free lifestyle. Early stenting helps preserve limb function, preventing critical limb issues or loss, and ensuring long-term well-being. It also offers psychological benefits, reducing symptoms, enhancing activity capacity, and boosting mood, confidence, and health management, improving the quality of life for intermittent claudication patients.^{5,6,7,8}

CONCLUSION

Intermittent claudication is a common symptom of peripheral artery disease which significantly diminishes patients' health-related quality of life. Concomitant use of endovascular intervention and medical management can drastically improve the quality of life ensuring patient compliance with medical management too.

CONFLICT OF INTEREST

None

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None

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