

# Caput Medusa: A Critical Limb Ischemia Conundrum

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## Introduction

Peripheral artery disease is a growing pandemic with an estimated prevalence higher than ischemic heart disease and cancer combined. Critical limb ischemia, the deadliest form of the disease, is usually associated with infra-popliteal artery disease. We present a patient case with advanced below the knee disease requiring multiple innovative techniques.

## Case Description

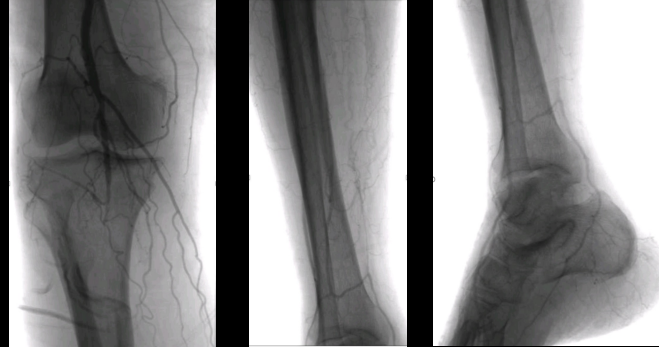
A 61-year-old male with PMHx of CHF, HTN, and DM II presented with bilateral lower extremity rest pain. On physical exam he demonstrated diminished pulses bilaterally. ABI demonstrated bilateral distal leg atherosclerotic disease. Bilateral arterial ultrasound showed multiphasic flow in the profunda, superficial femoral artery (SFA) with elevated velocities in the distal SFA.

The patient underwent CT-angiography of the lower extremities which demonstrated extensive vascular calcification throughout the lower extremity vessels.

The iliac arteries were free of significant disease. No critical stenosis was noted in the SFA with a stump occlusion at the popliteal level.

## Procedure Description

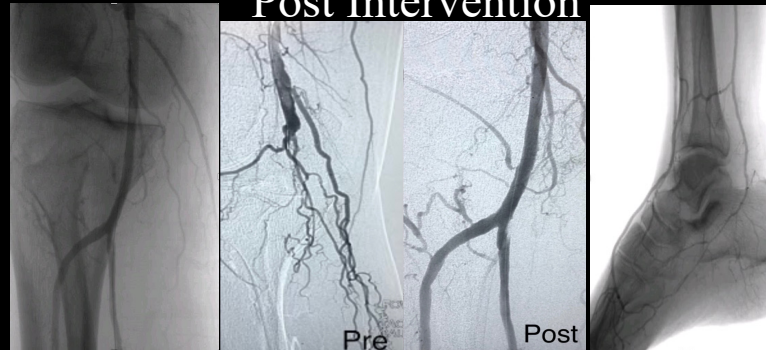
### Pre-Interventional Imaging



### Primary Intervention



### Post Intervention



Given the lack of iliac disease and significant below the knee disease, antegrade puncture of the right common femoral artery (CFA) was obtained. Digital subtraction angiography was performed confirming a calcified stump occlusion at the level of the popliteal with several large collaterals. Reconstitution of the anterior tibial and posterior tibial arteries was noted at the level of the ankle.

Given the ambiguous proximal cap, a primary retrograde approach was chosen. A V 18 wire and a CXI 0.018 90 cm support catheter were used to cross the occluded anterior tibial artery using the JENALI technique in a retrograde fashion. A Navicross 0.035 90 cm catheter was placed from above into the popliteal artery. The 0.018 wire and catheter were advanced into the 0.035 catheter. A 0.14 wire was then placed and both support catheters were removed. IVUS was done for vessel sizing, evaluation of plaque morphology and confirmation of intraluminal crossing. Orbital atherectomy was chosen due to severe calcification. Sequential angioplasty was then performed with excellent results.

The patient was brought back after a few weeks due to the lack of resolution of symptoms.

A right CFA antegrade access was obtained. A favorable stump of the tibioperoneal trunk was noted, prompting an attempt of antegrade wiring using a combination of a Command ES 0.014 wire and a Navicross 0.035 support catheter, which was successful. IVUS followed by sequential angioplasty was performed.

Final results with 2 vessel run were obtained and there was resolution of patient's pain at rest.

## Conclusion

The increased prevalence of peripheral vascular disease mandates that vascular operators continue to find innovative solutions to treating advanced disease. We presented a case where multiple innovative antegrade and retrograde techniques were used to help revascularize a patient with complex below the knee arterial disease.