1148 **Overcoming Severe Calcification with the FRAP-cross Technique - Fracking and Rendezvous PIERCE for Intracalcium CROSS**

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A 90-year-old man with a background of chronic kidney disease, diabetes mellitus, and hypertension presented with Rutherford class 3 symptoms. He had a prior history of bilateral EIA stenting and left SFA CTO endovascular treatment 1 year ago. He was admitted for recurrent bilateral claudication. CT revealed bilateral SFA occlusions with severe downstream disease. We decided to treat the right SFA first.

A contralateral approach was performed via the left common femoral artery with a 6 Fr sheath. Angiography confirmed a 75% stenosis at the right CFA, occlusion of the right SFA involving the proximal to mid segments (P1?P2), and severe disease extending into the TPT. Diffuse and extensive vascular calcification was noted.

Initial attempts at antegrade wiring were unsuccessful due to severe calcification. IVUS performed from the antegrade approach demonstrated concentric heavy calcification, prompting a switch to a retrograde strategy. Distal puncture at the P3 segment was performed to obtain retrograde access. Given the difficulty in crossing the lesion, fracking technique was employed, where a needle is inserted into deep calcification and hydraulic pressure is applied, in order to facilitate passage of the wire and microcatheter.

At the mid SFA, the lesion remained resistant, and wire crossing was again unsuccessful. Rendezvous PIERCE was performed (a 20-gauge needle was inserted towards the retrograde wire under angiographic guidance and advanced to the tip of the guide wire within the calcified lesion to achieve partial externalisation. The needle was then repeatedly rotated and advanced to cross the lesion). The retrograde wire was eventually able to enter the antegrade space, confirmed by IVUS.

During lesion preparation after wire crossing, balloon expansion was suboptimal due to calcified plaque. Fracking was again performed twice more at this stage to facilitate adequate balloon expansion. Endovascular treatment of the SFA was completed using DCB.

This case highlights the importance of combining advanced techniques, including fracking and Rendezvous PIERCE to tackle complex and heavily calcified femoropopliteal occlusions. Despite the patient’s advanced age and comorbidities, successful recanalization was achieved, resulting in restoration of vessel patency and symptomatic improvement.