Case 1646

Eurorad

Stent implantation into a lower limb artery

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Section: Interventional radiology
Case Type: Clinical Cases
Authors: D.Vorwerk, Th.Rosen
Patient: 83 years, female

Clinical History:

Unsuccessful balloon dilatation of the peroneal artery in a single-vessel outflow situation.
Imaging Findings:

A patient, with diabetes of many years' duration, presented with a non-healing ulcer on her left leg. There were multiple stenoses in her superficial femoral and popliteal arteries and she also showed only one remaining lower leg artery - the interosseal artery, which was majorly stenosed in its proximal part. Interventional treatment was indicated for limb-salvage, based on the stage IV disease.
After antegrade puncture of the left common femoral artery, a hydrophilic guidewire was advanced into the popliteal artery across the multiple lesions. A 4F vertebral diagnostic catheter was passed over the wire and imaging of the lower leg arteries was performed. Multiple lesions were seen in the proximal peroneal artery and an 0.018in platinum-tipped guidewire was carefully advanced into this artery. Since a stenosed segment could not be crossed by any means, a 0.012 in 90-degree-angulated hydrophilic guidewire was carefully guided over this segment into the distal peroneal artery. After advancement of the catheter and exchange for the platinum-tipped guidewire, balloon angioplasty was performed by use of a low-profile 3.0mm x 2cm balloon catheter. After balloon angioplasty, most of the lesions were reopened, but there was still a segment left that did not respond to PTA and, moreover, was occlusive for the outflow tract. Thus, a prolonged balloon dilatation was performed over 5 minutes using the same balloon. Nevertheless, this was also unsuccessful in keeping the segment open. Therefore, the 0.018in guidewire was exchanged for a 0.014in guidewire and a 3.5mm x 14mm long coronary stent on a rapid exchange system (Guidant Inc., Brussels, Belgium) was placed into the lesion and inflated, keeping the segment stable. The intervention was completed by PTA of the proxiaml lesions in the popliteal and superficial femoral artery. The patient was kept on iv heparin (500IU/h) for 72 hours and on clopidogrel combined with ASA 100mg for 6 months. Progressive healing of her ulcer occurred.

Discussion:

Use of stents in the subpopliteal arteries is rarely needed. Normally balloon angioplasty alone is well tolerated and yields acceptable results concerning limb salvage especially as a bail-out. This case is one of the very few where balloon angioplasty was not enough to solve the situation but worsened it. Thus, stenting was helpful as an emergency procedure.
Differential Diagnosis List: Placement of a coronary stent into interosseal artery

Final Diagnosis: Placement of a coronary stent into interosseal artery

References:

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Boyer L, Therre T, Garcier JM, Perez N, Ravel A, Privat C, Viallet JF.
Infrapopliteal percutaneous transluminal angioplasty for limb salvage.
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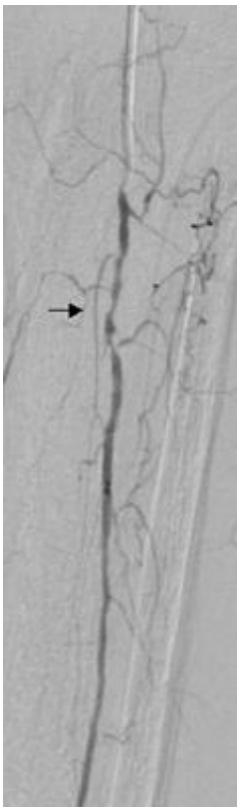
Figure 1

a

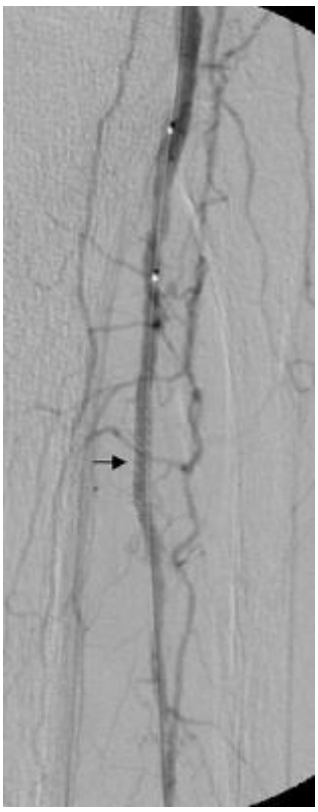


Description: High-grade stenosis of the proximal interosseal artery (arrow) as the only artery supplying the foot. **Origin:**

b

Description: Even after prolonged PTA, the stenotic segment presents even more stenosed than prior to intervention (arrow). **Origin:**

c



Description: After placing a short coronary stent, patency is restored. **Origin:**