

CASE SPOTLIGHT



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CASE STUDY 1

A Case in which High Pressure Dilatation Using the JADE Balloon was Effective for the Lateral Plantar Artery

CASE DETAILS

- Male patient in his 60s
- Critical limb ischemia (Rutherford Stage 6)
- Risk factors for arteriosclerosis: Hypertension, dyslipidemia, diabetes, and chronic kidney disease (maintenance dialysis)
- Patient with an intractably infected ulcer at the first left toe was admitted for catheter treatment

PROCEDURE

A 3F long sheath was inserted via antegrade approach from the left inguinal region towards to the distal popliteal artery. Radiological findings revealed a 99% diffused stenosis from the posterior tibial artery to the lateral plantar artery [Fig. 1, 2, and 3]. Upon successful lesion crossing with a 0.014" guidewire supported by a microcatheter, balloon dilatation at the lateral plantar artery (LPA) was performed using a 1.5 mm semi-compliant balloon but with residual stenosis [Fig. 4 and 5]. A 2.0 x 120 mm JADE balloon was then used to perform high-pressure (22 atm) dilatation in the LPA [Fig. 6]. The same JADE was then used to dilate another lesion at the posterior tibial artery (PTA) at the same atmospheric pressure, followed by further lesion expansion with an upsized 2.5 x 120 mm JADE to achieve good blood flow from the PTA to LPA as illustrated in the final images [Fig. 7, 8, and 9]. Granulation (wound healing) accompanied by improved post-procedural perfusion were witnessed while patient underwent vacuum-assisted closure.

Fig. 1

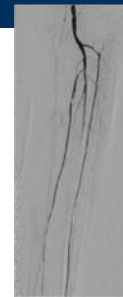


Fig. 2

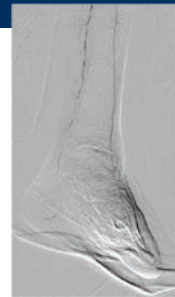


Fig. 3



Fig. 4

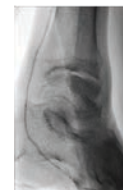


Fig. 5



Fig. 6

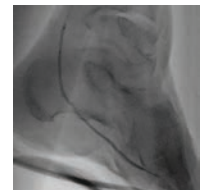


Fig. 7



Fig. 8

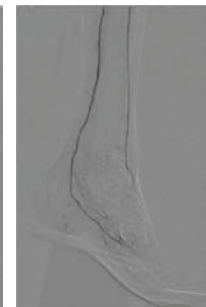
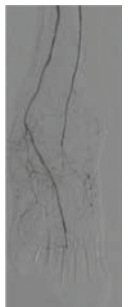


Fig. 9



DISCUSSION

Balloon under expansion and rupture are common shortfalls with conventional semi-compliant balloons in the treatment of severely calcified lesions. However, JADE PTA being a non-compliant balloon performs safe and effective balloon expansion with minimal balloon growth even when inflated up to 22 atm. Compared with other non-compliant balloons, JADE PTA have balloon length offerings up to 180 mm to help shorten procedural time and reduce radiation dosage.

Compared with OTW systems, rapid exchange balloons with a much shorter guidewire lumen as well as the transition point at the guidewire exit port have always been regarded as the weakness of this type of system. However, JADE with a 60 cm guidewire lumen design has exceptional pushability and deliverability. The device also crosses well and performs effective lesion expansion using high pressure, making it an ideal device for resolving severely calcified lesions as presented in this case.