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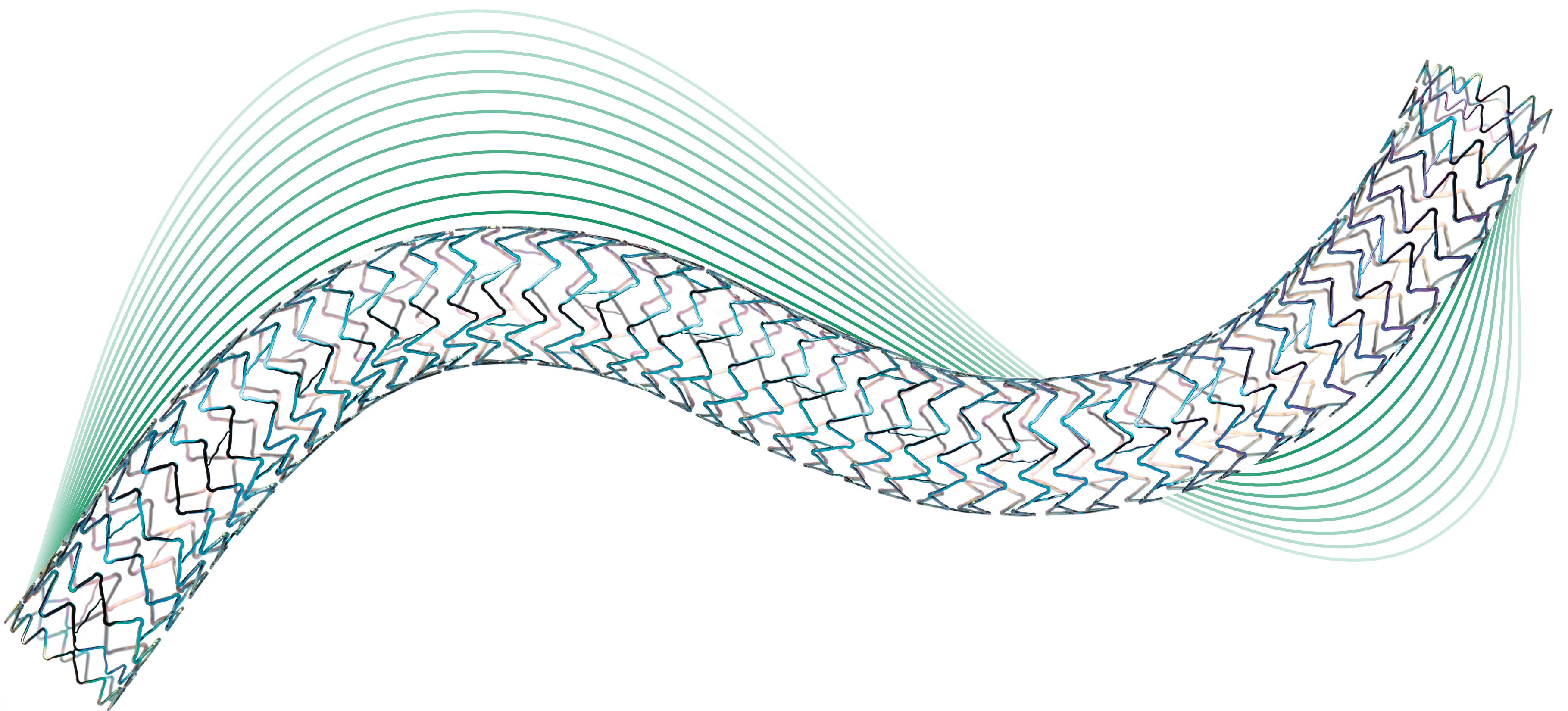
Vascular Intervention // **Peripheral**
Balloon-Expandable Cobalt Chromium
Stent System

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Case Report

Direct Stenting a Left Distal External Iliac Artery Stenosis
in a Patient With Severe Renal Dysfunction



Author

Paolo Sbarzaglia, MD, Head of Endovascular Cardiology Unit, Maria Cecilia Hospital – GVM Care & Research,
Cotignola – Italy

1. Patient history

An 84-year-old man presented with severe intermittent claudication involving the left thigh and leg (Rutherford class 3, Fontaine class IIb). His medical history included former smoking habit, hypertension, dyslipidemia, family history of coronary artery disease, multilevel atherosclerotic disease with previous right carotid artery stenting, and multiple previous percutaneous coronary interventions of the left anterior descending and right coronary arteries.

Duplex ultrasound showed monophasic flow of the left common femoral artery (CFA), confirmed by CT angiography showing a severe focal stenosis of the distal external iliac artery (EIA).

2. Procedure description

Due to moderate-severe impairment of renal function (GFR 34 mL/min), the procedure was performed using mainly CO² contrast medium through the Angiodroid automatic injector to reduce the risk of contrast-induced nephropathy.

A 6F Destination sheath (Terumo) was inserted from the right femoral artery and crossed over toward the left iliac axis to inject adequate CO² to optimally visualize the iliac-femoral artery anatomy. Angiography showed a severe focal stenosis of the distal EIA (Figures 1 and 2) and diffuse moderate disease of the superficial femoral and popliteal arteries (Figures 3 and 4).



Fig. 1



Fig. 2



Fig. 3

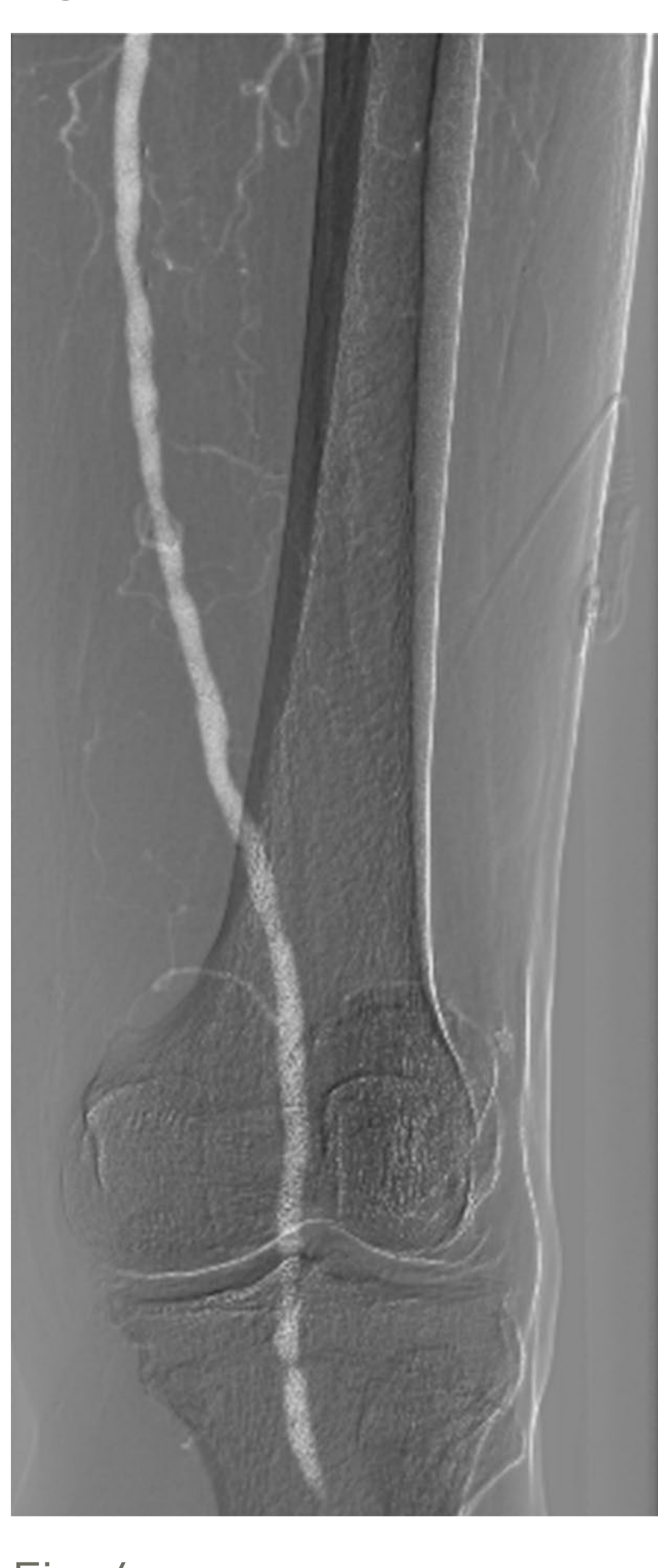


Fig. 4

The lesion in the left EIA was crossed using a V-18 ControlWire (Boston Scientific) supported by a 4F Berenstein diagnostic catheter (Cordis), before exchanging the 0.018" wire for a 0.035" Supra Core wire (Abbott Vascular) to provide more support in facilitating a direct stenting approach. Utilizing a fluoroscopic roadmap derived from CO² angiography (Smart Mask), a **Dynetic®-35** balloon-expandable cobalt chromium stent (stent, 8 x 28 mm; usable catheter length, 90 cm; BIOTRONIK) was advanced (Figure 5) and inflated to 12 atm with dog-bone inflation evident (Figures 6 and 7), resulting in optimal expansion and final angiographic result. Despite the degree of the stenosis, it was possible to direct stent the lesion because of the high deliverability and trackability of the **Dynetic-35** stent system.



Fig. 5

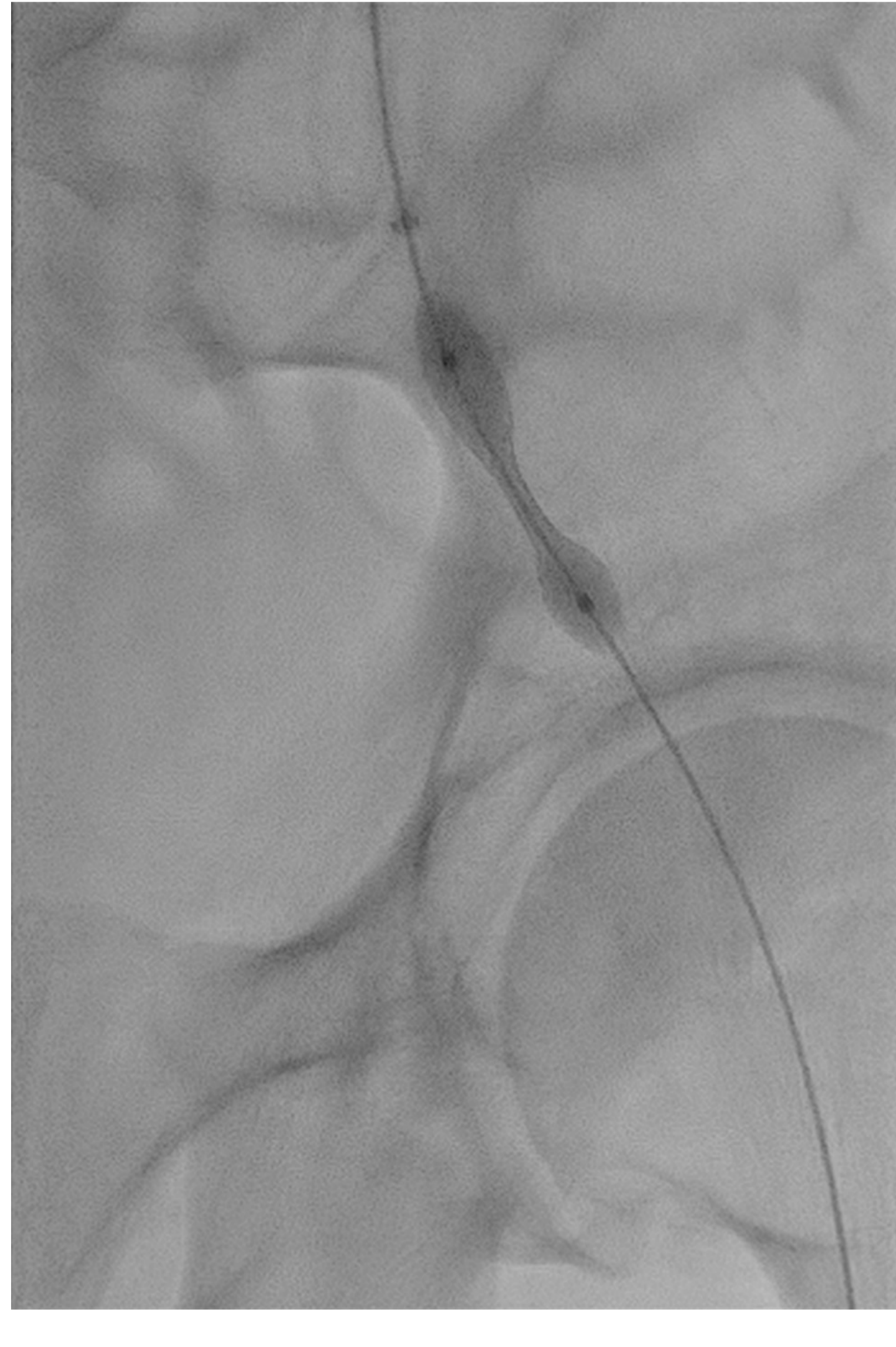


Fig. 6

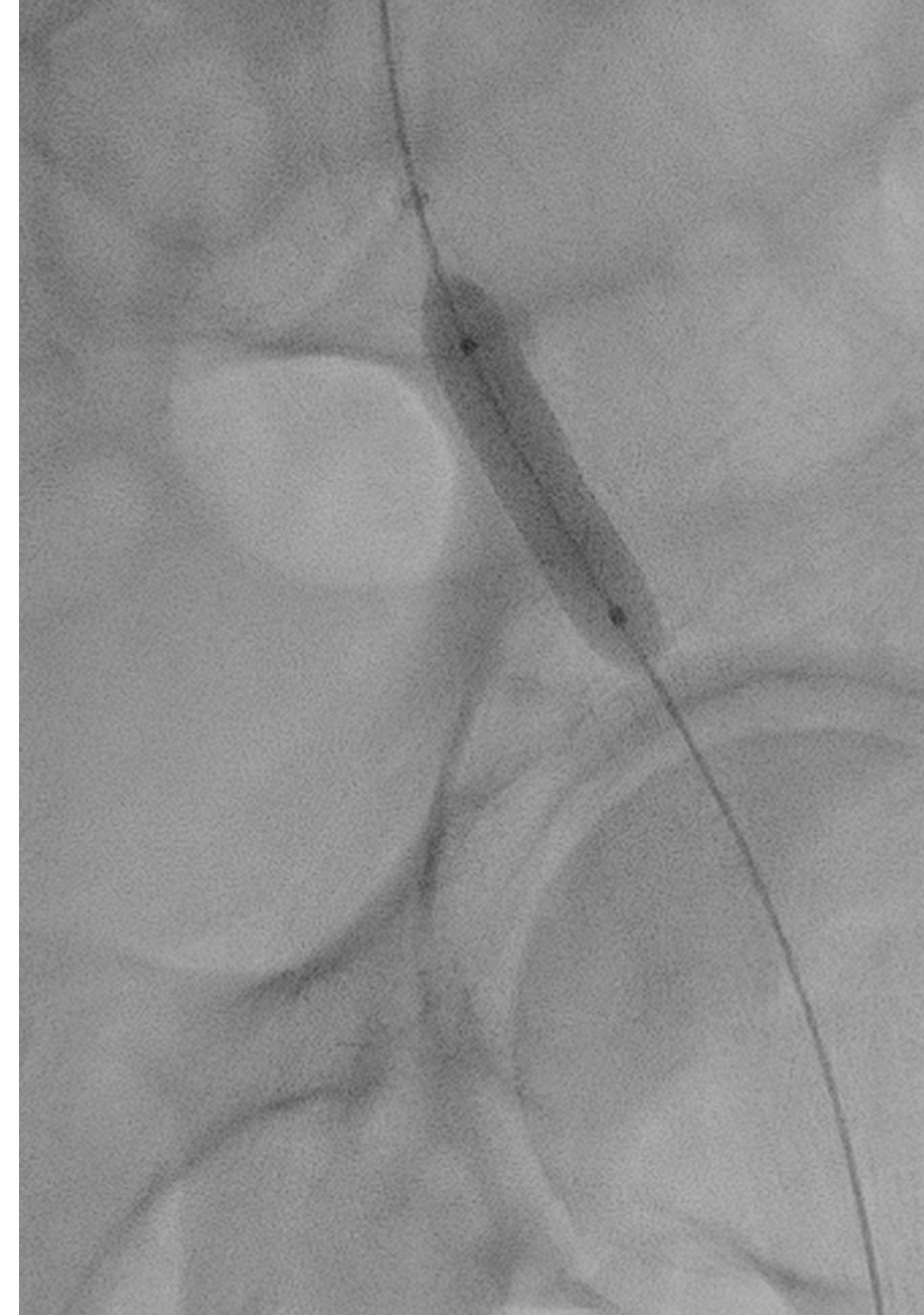


Fig. 7

3. Final results

Precise stent positioning and subsequent deployment was possible due to the 90 cm length shaft and delivery profile of **Dynetic-35**. The final angiographic result was excellent with no evidence of residual stenosis (Figure 8). The use of CO² as a contrast medium enabled injection of standard iodine contrast only in the diagnostic phase of the iliac axis (where diagnostic power of CO² angiography was not sufficient because of bowel movements) and to check the final result (20 mL total). Post-procedural duplex ultrasound performed the following day demonstrated triphasic flow in the left CFA, and there was no further impairment of renal function because of the low dose of iodine contrast administration.

The patient was discharged on dual antiplatelet therapy consisting of aspirin 100 mg/day and clopidogrel 75 mg/day. At 1-week follow-up, the patient reported complete resolution of his intermittent claudication, with no adverse side effects reported.



Fig. 8

“Despite the degree of the stenosis, it was possible to direct stent the lesion because of the high deliverability and trackability of the **Dynetic-35 stent system.”**

Paolo Sbarzaglia, MD, Head of Endovascular Cardiology Unit, Maria Cecilia Hospital – GVM Care & Research, Cotignola – Italy

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BIOTRONIK AG
Ackerstrasse 6
8180 Bülach, Switzerland
Tel +41 (0) 44 8645111
Fax +41 (0) 44 8645005
info.vi@biotronik.com
www.biotronik.com

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