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Case Report

Contralateral approach to iliac artery recanalization with kissing nitinol stents present in the aortic bifurcation[☆]

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ABSTRACT

A 69-year-old man, who had earlier undergone reconstruction of the aortic bifurcation with kissing nitinol stents, presented with occlusion of the left external iliac artery. The occlusion was successfully and safely recanalized using contralateral femoral approach with passage of interventional hardware through the struts of the stents in the aortic bifurcation. Presence of contemporary flexible nitinol stents with open-cell design in the aortic bifurcation is not a contraindication to the use of the contralateral femoral approach.

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1. Introduction

An important prerequisite for successful endovascular treatment of peripheral vascular disease is the availability of vascular access that will allow unhindered approach to the target lesion. Use of contralateral retrograde femoral access is an advantageous way to approach external iliac artery occlusions, as it combines the benefits of retrograde femoral access with that of antegrade approach to the iliac artery occlusion without the risks of the brachial approach. A contralateral approach is generally not considered possible in the presence of kissing bilateral common iliac artery stents that extend into the distal aorta,¹ as the stent struts at the aortic bifurcation would obstruct cross-over of interventional hardware, and such efforts

could lead to distortion of the stents; this view needs to be revisited, given the development of contemporary flexible self-expanding nitinol stents with open-cell design^{2,3} and the demonstrated feasibility of side-branch interventional procedures through the struts of stents in peripheral vessels.⁴ We present a case where an external iliac artery occlusion could be successfully recanalized and stented using contralateral approach in a patient with previously deployed kissing nitinol stents in the aortic bifurcation.

2. Case report

A 69-year-old male, diabetic, hypertensive, and smoker with prior coronary bypass surgery presented with bilateral lower

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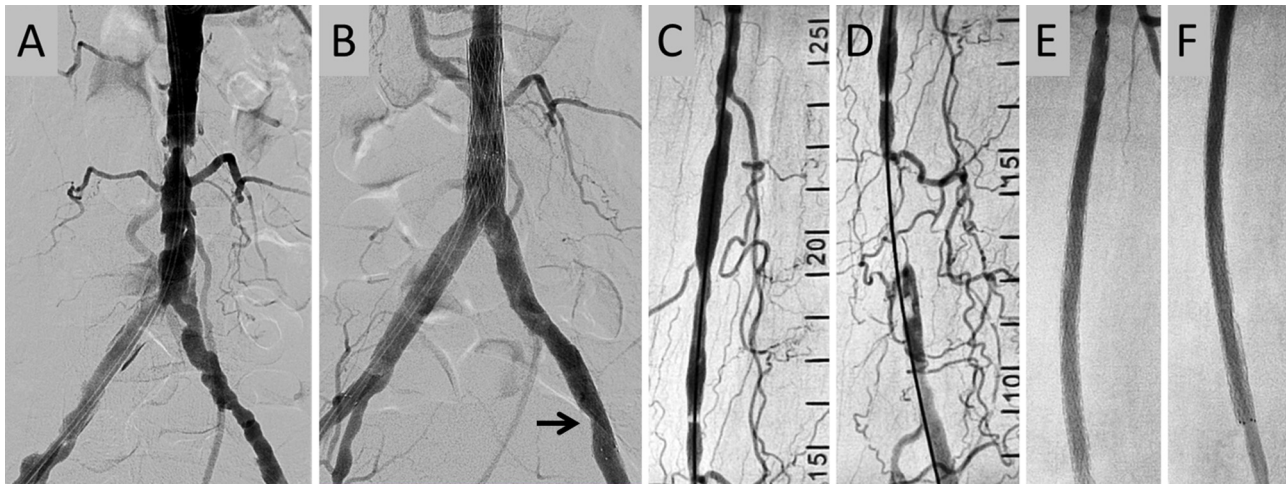


Fig. 1 – (A) Angiogram in antero-posterior view showing extensive ulcerated obstructive atherosclerotic disease in the infra-renal aorta and iliac arteries bilaterally. **(B)** Post-intervention angiogram showing widely patent stents in infra-renal aorta and common iliac arteries bilaterally, with minor residual stenosis in the proximal left external iliac artery (arrow). **(C,D)** Selective left superficial femoral arteriograms, in the upper and mid-thigh respectively, showing extensive obstructive atherosclerotic disease with a short segment of occlusion. **(E,F)** Post-intervention angiograms in the corresponding regions showing good outcome with widely patent stent.

limb claudication (Fontaine stage IIb) and feeble femoral pulses. Angiography revealed atherosclerotic disease extending from the distal abdominal aorta to the proximal external iliac arteries (EIA) bilaterally, with systolic pressure gradients of 105 and 68 mmHg between the upper abdominal aorta and right and left common femoral arteries (CFA), respectively

(Fig. 1A); the left superficial femoral artery (SFA) also revealed diffuse atherosclerotic obstructive disease with occlusion lower down (Fig. 1C,D). Using contralateral retrograde femoral approach, the left SFA occlusion was recanalized and a 7×150 mm self-expanding nitinol stent was deployed (Fig. 1E,F). Next, the aorto-iliac diseased segment was treated

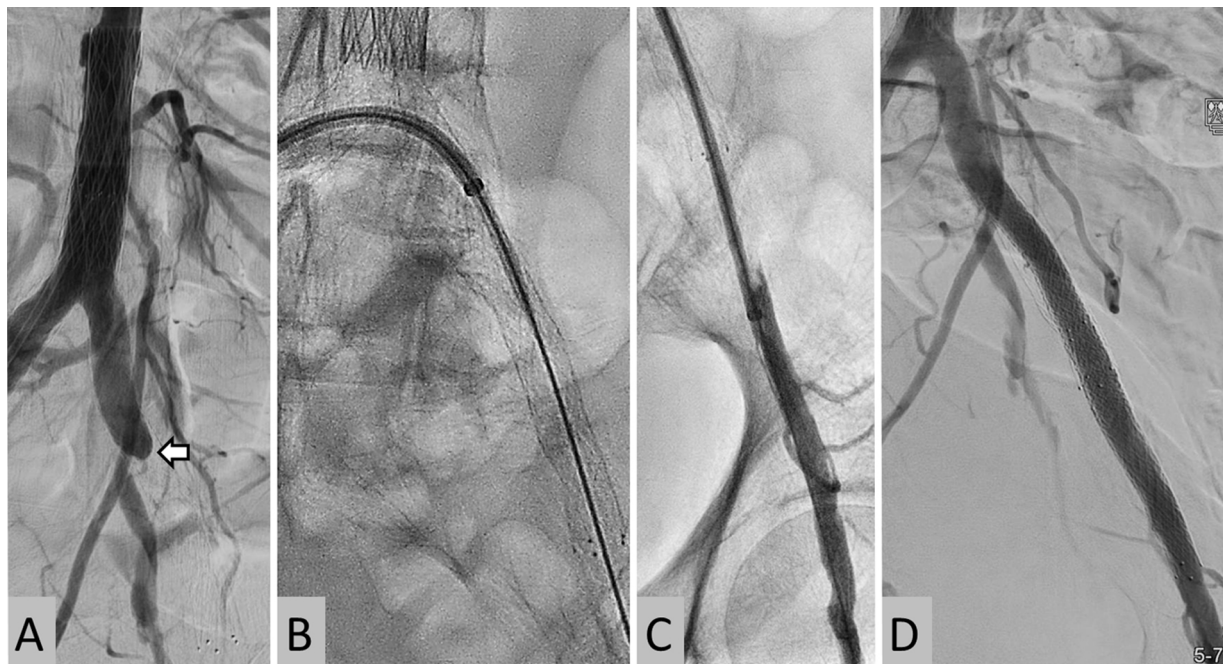


Fig. 2 – (A) Angiogram in antero-posterior view showing occlusion (arrow) of the stented segment of left external iliac artery and beyond. **(B)** Hydrophilic 7F sheath being advanced over a stiff guidewire through the struts of kissing nitinol stents in the aortic bifurcation. **(C)** Angiogram done through the contralateral sheath showing patency of the distal left external iliac artery and beyond. **(D)** Post-intervention angiogram showing wide patency of the left common and external iliac arteries and aortic bifurcation region.

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