

IMAGES IN INTERVENTION

# Stenting for Juxtarenal Abdominal Aortic Occlusion



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**T**remendous advancements in endovascular intervention have opened the door for treating distal abdominal aortic occlusion percutaneously (1,2). “Juxtarenal” abdominal aortic occlusion is 1 of the final frontiers in endovascular intervention.

An 83-year-old man with a history of hypertension, dyslipidemia, and percutaneous coronary intervention was referred to our vascular team for treatment of severe progressive bilateral intermittent claudication (Rutherford category 3). Although blood testing revealed no abnormalities, his ankle-brachial index was 0.2/0.2. Enhanced computed tomography demonstrated complete occlusion of the juxtarenal abdominal aorta. The occlusion was connected to a right iliac artery occlusion and left iliac artery stenosis (Figures 1A and 1B). Because a recent study demonstrated that the in-hospital 30-day mortality rate was relatively high (17%) for axillofemoral bypass (3), this patient was considered a poor candidate for surgical revascularization due to his age and concomitant coronary artery disease status. Multidisciplinary discussion led to the decision to attempt endovascular therapy. Diagnostic digital subtraction angiography findings via the right brachial artery were consistent with the computed

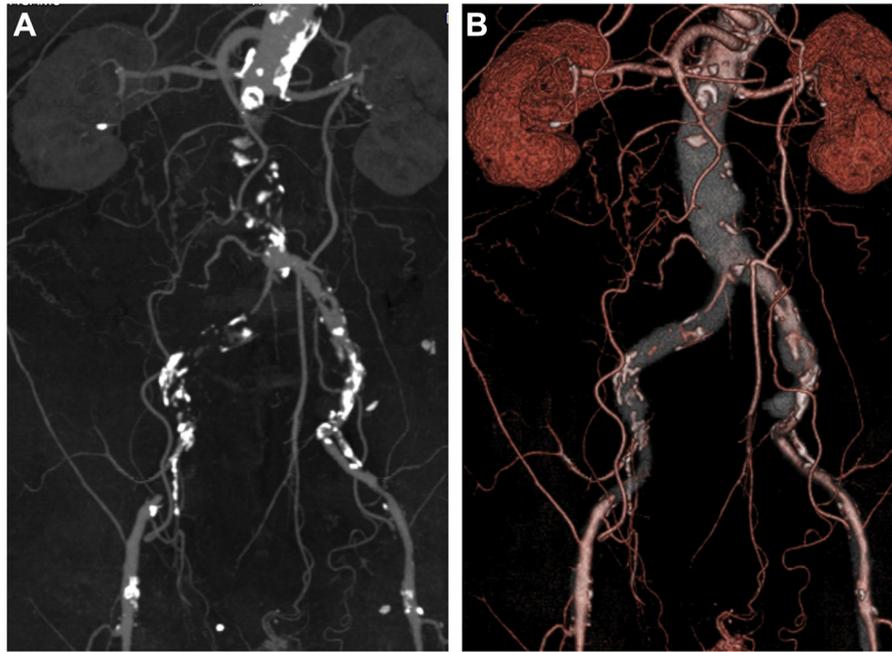
tomography findings (Figure 2A, Online Video 1). Immediately after successful retrograde crossing of the guidewire from the left groin, direct abdominal aortic stenting with self-expanding stents (12 × 40 mm and 12 × 60 mm) was performed from just below the ostium of the renal artery to the terminal aorta without pre- and post-dilation to prevent shifting of the plaque or thrombus into the renal artery or significant distal embolization. After successful crossing of the right iliac artery occlusion using a rendezvous technique, kissing stenting with self-expanding stents followed by post-dilation was performed. The final angiography demonstrated excellent revascularization (Figure 2B, Online Video 2). The patient’s ankle-brachial index increased to 0.8/0.8, and he was uneventfully discharged with a dramatic relief of claudication.

Contemporary endovascular intervention might be a viable option even for juxtarenal abdominal aortic occlusion in high-risk surgical patients.

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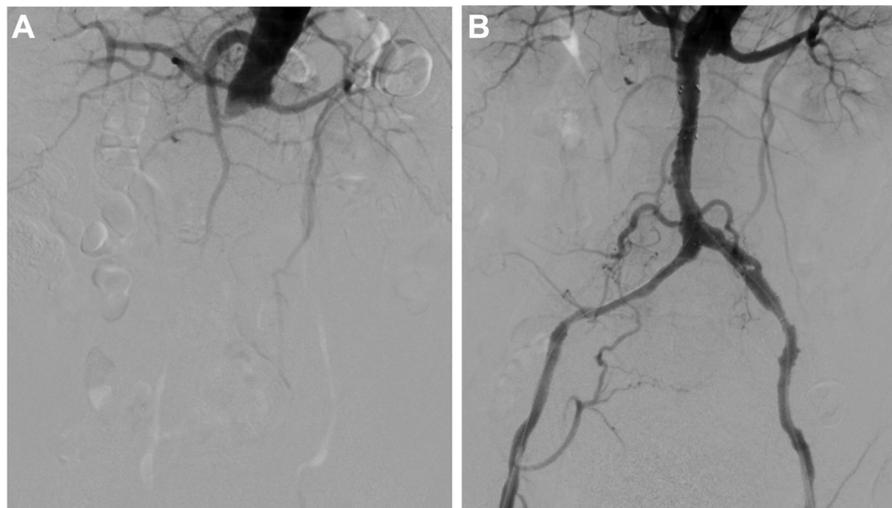
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**FIGURE 1** Contrast-Enhanced Computed Tomography



- (A) A juxtarenal abdominal aortic occlusion with vessel calcification that connects to a right iliac artery occlusion and left iliac artery stenosis.  
(B) A complex of plaque and mural thrombus in the vessel, shown in gray.

**FIGURE 2** Before and After Juxtarenal Abdominal Aortic Stenting



- (A) Aortography of the abdominal aorta that yielded findings consistent with enhanced computed tomography findings ([Online Video 1](#)).  
(B) Final angiography after serial abdominal stenting and kissing iliac stenting showing an excellent result without any significant distal embolization and compromising renal artery ([Online Video 2](#)).

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**KEY WORDS** aortoiliac occlusive disease, endovascular therapy, stent(s)

 **APPENDIX** For supplemental videos, please see the online version of this article.