

# The Powerlink AAA Stent-graft: Successful Deployment in an Abnormal AAA Sac

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## CASE REPORT

One of the challenges inherent with all modular AAA stent-grafts is the difficulty or inability to cannulate the contralateral leg hole (gate) when faced with tortuous or stenotic areas in the anatomy of the AAA.<sup>1</sup> The inability to cannulate and successfully wire the gate may lead to conversion to open surgical repair.

We report on the successful deployment of the Endologix Powerlink unibody bifurcated stent graft (Irvine, CA) in a 64 year old male patient presenting

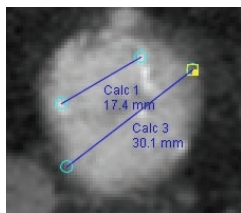


Figure 2.

Medical Metrx Solutions provided 3-D reconstruction of the CT scan. After closer review of the MMS images, three separate channels within the 10mm stenotic segment were discovered. (Fig. 3)

Pre-op measurements show a proximal infrarenal aortic neck diameter of 21.5 mm with a proximal neck length of 22 mm. The proximal AAA diameter is 51.6 mm, and the distal AAA diameter is 42.0 mm. The distance from the renals to the aortic bifurcation is 121.4 mm. The diameter of the right common iliac is 10.5 mm and the diameter of the left common iliac is 10.6 mm.

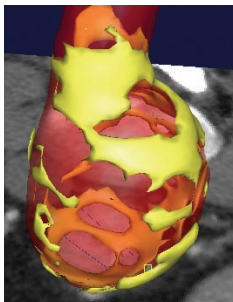


Figure 3.

## METHOD

The patient's right side was chosen to deliver the Powerlink bifurcated system with the contralateral side on the left. The common iliac arteries were pre-dilated with 10 mm x 4 cm balloon catheters utilizing the kissing balloon technique. A 0.035", 180 cm stiff guidewire was advanced into the abdominal aorta through the dual lumen catheter per standard procedure until resistance was encountered at the stenotic area between the two AAA's. The dual lumen catheter was removed and a 5F Kumpe catheter was advanced over the stiff guidewire to help steer through the narrowing between the two aneurysms. Next, a 5F multipurpose catheter was advanced from the left groin to the right groin over the

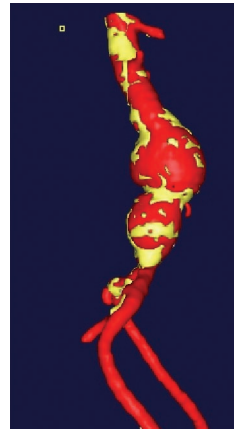
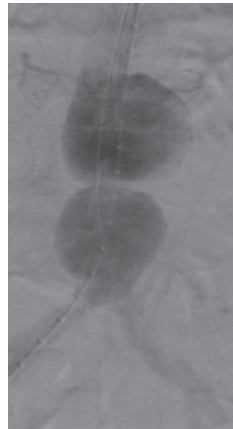


Figure 1. Pre-op

length, a 25 x 25 x 75 mm infrarenal proximal cuff was used to add length to the stent-graft and deployed just below the lowest renal artery. Post-dilation was performed on the proximal end of the cuff and at the overlap of the cuff and main body using a balloon catheter. A narrowing remained in the area between the two aneurysms and (Fig. 4) the balloon catheter was used to successfully post-dilate this area.



Figure 4.

## RESULTS

The Powerlink System for AAA was successfully implanted. Angiography showed excellent flow through the entire stent-graft with no indication of type I or type II endoleaks. The case was completed skin to skin in two hours with the deployment of the Powerlink stent-graft completed in 45 minutes. (Fig. 5)



Figure 5.

## CONCLUSION

The patient had a successful outcome despite the potential difficulty posed by the abnormal anatomy within the AAAs. Due to the Powerlink stent graft unibody bifurcated design, the deployment was completed without need for cannulation of the contralateral gate. In our experience, such an anatomical AAA challenge may have made the cannulation of the contralateral gate extremely difficult in a modular stent graft system.

<sup>1</sup>Raithel, Dieter, MD, PhD, Qu, Lefeng, MD, PhD, and Hetzel, Gudrun, MD, PhD, A New Concept in EVAR: Anatomical fixation with the Powerlink stent graft, *Endovascular Today*, May 2006



The Powerlink System: Dependability of Outcome... Durability of Design.