

CASE REPORT

Treatment of Saccular Aneurysm with Endovascular AAA Stent-graft

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CASE REPORT

We report on the successful deployment of the Endologix Powerlink unibody bifurcated stent-graft (Irvine, CA) in a 74 year old male patient presenting with an abdominal aortic aneurysm. The aneurysm may be fusiform however it has a somewhat saccular appearance. M2S provided 3-D reconstruction of the CT scan.

Pre-op measurements show a proximal infrarenal aortic neck diameter of 23.5 mm with a proximal neck length of 50.0 mm. There is mild thrombus and mild calcium identified at the proximal neck. The left renal artery is the lowest artery and no accessory renal arteries are present. The aortic aneurysm diameter measures 43.4 mm. The renals to aortic bifurcation distance is 112.8 mm and the diameter of the aortic bifurcation is 15.0 mm.

The proximal right common iliac diameter is 12.0 mm and the distal diameter is 12.0 mm. The length from the aortic bifurcation to the right hypogastric is 71.0 mm. The left proximal common iliac diameter is 14.0 mm and the distal diameter is 14.0 mm. The length from the aortic bifurcation to the left hypogastric is 76.5 mm.

METHOD

The patient's right side was chosen to deliver the Powerlink bifurcated system with the contralateral side on the left. Cut downs were performed on both sides. IVUS was performed and the AAA was saccular involving only the left lateral wall. A 0.035", 260 cm stiff guidewire was advanced into the thoracic aorta through the dual lumen catheter per standard procedure. The device limb wire was advanced into the central lumen of the dual lumen catheter. The Powerlink bifurcated system was loaded onto the stiff guidewire and advanced above the aortic bifurcation. The outer sheath was retracted to separate the iliac limbs. The delivery catheter was retracted to position the Powerlink on the aortic bifurcation and the stent-graft was deployed.

Based on the patient's renal to aortic bifurcation length of 112.8 mm, a 25-16-135BL was chosen. The proximal diameter is 25 mm, the iliac limb diameters are 16mm and the total length is 135 mm. A 25-25-75L proximal cuff was used to add length to reach

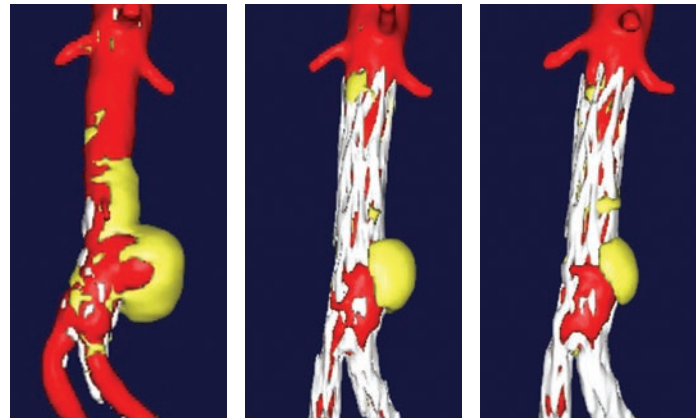


Figure 1. Pre-op

Figure 2. Six Month

Figure 3. One Year

the renals. The cuff has a proximal diameter of 25 mm, a distal diameter of 25 mm and a total length of 75 mm. The iliac limbs were post-dilated with 10 mm x 4 cm PTA balloons. The aortic neck was not post-dilated. No endoleaks were present at completion of the procedure.

RESULTS

The Powerlink AAA stent-graft was successfully implanted. Patient follow up includes CT scans and M2S reconstructions at six months and one year. Pre-op, six month and one year M2S images are shown (Figures 1, 2 and 3). The data is shown in Table 1.

CONCLUSION

The patient data obtained through one year shows a reduction in aneurysm diameter and volume. The pre-op diameter was 43.4 mm, the six month diameter was 34.7 mm and the one year diameter is 31.7 mm. The pre-op volume was 76.9 ml, the six month volume was 65.7 ml and the one year volume is 61.9 ml. The aneurysm is greater than one cm smaller in diameter at one year. The Powerlink appears to have a positive effect on aneurysm morphology demonstrated by continually decreasing AAA diameter and volume over time. The long main body and column strength of the Powerlink may contribute to the findings. The Powerlink clinical trial five year data shows no wire fracture or graft abnormalities. Durability and classical remodeling look to be benefits of the Powerlink AAA stent-graft.

Table 1

Time Period	Pre-op	Six Month	One Year
Maximum AAA Diameter	43.4 mm	34.7 mm	31.7 mm
Aneurysm Volume	76.9 ml	65.7 ml	61.9 ml