Crossing the limbs (Ballerina position)

A useful adjunct for successful implantation for the Endurant stent graft in a patient with an angulated-tortuous neck and splayed left common iliac artery

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Chief Complaint:
   Known incidental abdominal aortic aneurysm

Duration:
   Not known

Present illness:
   A 74 year old male with a history of chronic hypertension was incidentally found to have an asymptomatic infrarenal AAA, and presented to our institution.
CT-Aorta

Severe angulated infra-renal AAA
Rt.IIA occlusion-vascular plug

Access:

- 8 F Judkins right (JR) 5 guiding catheter
- 8-Fr Balkin sheath by Lt.CFA:
  (Cook Incorporated, Bloomington, IN)

Diameter & length of the stent graft:

- Over-sizing of 30-50% greater than that of the Rt.IIA

Preprocedural occlusions of Rt.IIA to prevent endoleak of aneurysm
Diameters & lengths of the vascular plug:

Maximum diameter of the Rt.IIA was measured at 7 mm.

Amplatzer Vascular Plug-II (AGA Medical Corp, Golden Valley, Minn):

12 mm diameter
Selection of Rt.IIA
.035-inch extra-stiff G/W (260-cm length, Amplatz Extra-Stiff, Cook, Bloomington, IN)
.8 F Judkins right (JR) 5 guiding catheter
.12 mm diameter-Amplatzer Vascular Plug-II (AGA Medical Corp, Golden Valley, Minn)
Stent Graft for EVAR

Crossing the limb (Ballerina technique):
- Severe infra-renal aortic neck
- Splayed aortic bifurcation with large value of theta for the angle of the Lt.CIA
Identification of the proximal landing zone

.5 Fr pigtail catheter was placed at just above both RAs via the Lt.CFA
Endurant (Medtronic Cardiovascular, Santa Rosa, Calif) via the Rt.CFA:

Main bifurcated stent graft: 36-16 & 14 mm tapered diameter & 166 mm length

0.035-inch stiff G/W (Lunderquist extra stiff wire, Cook Medical, Bloomington, IN)

Proximal landmark for stent graft placement: Origin of the Lt.RA (the lowest RA)
Partial deployment of main body SG
(Intentional cross leg-ballerina configuration of the stent graft)

The short-contralateral limb orifice of the SG is positioned to face the ipsilateral side (Rt.side)
Snare technique (Rt.BA & Lt.CFA)
.5-Fr multipurpose support-catheter is moved forward over the wire via the Lt.CFA.0.035-inch stiff G/W (Lunderquist extra stiff wire, Cook Medical, Bloomington, IN)
Insertion of the contralateral limb-SG

.18 Fr sheath (UltimumTM EV, St. Jude, Minnetonka, Minnesota) in the Lt.CFA. Endurant (Medtronic Cardiovascular, Santa Rosa, Calif): .16-20 mm reversed tapered (Bell type) diameter & 124 mm length
Deployment of the contra-lateral limb & main body

Accurate distal landing is essential to avoid the occlusion of the Lt.IIA, which is left open.
Deployment of the ipsilateral limb-SG

.18 Fr sheath (UltimumTM EV, St. Jude, Minnetonka, Minnesota) in the Lt.CFA
.Endurant (Medtronic Cardiovascular, Santa Rosa, Calif):
 .16-13 tapered diameter & 93 mm length to extend coverage to the Rt.CIA-EIA
Aneurysm exclusion with a endoleak at the distal landing zone of the Rt. iliac limb
Post-dilation

Reliant stent graft balloon (Medtronic Cardiovascular, Sunrise, Fla)
.18 Fr sheath (UltimumTM EV, St. Jude, Minnetonka, Minnesota) in the Lt.CFA.
Endurant (Medtronic Cardiovascular, Santa Rosa, Calif): .13 diameter & 82 mm length to extend coverage to the Rt.EIA
Post-stent graft-CT-Aorta