How To Improve Endograft Conformability In The Aortic Arch With TEVAR
V Riambau, MD, PhD

Following the increase in use of TEVAR, its indications have been expanded to, more proximal thoracic pathologies or even arch diseases. But far from the descending thoracic or abdominal aorta, the aortic arch sets new challenges to the aortic devices because of its curved anatomy, near origin of supra-aortic trunks, proximal-distal diameter mismatch, more difficult alternative open surgical approach, higher pressures and tridimensional aortic biodynamic. In addition, mainly due to thoracic aortic traumatic lesions and some type B dissections, younger patients are treated, dealing with smaller aortic diameters, more compliant aortas and sharper arch angles.

Endograft conformability to the aortic arch is a key feature to improve wall apposition and to avoid complications. Lack of conformability leads to “bird-beak” appearance, type I endoleaks, collapses, retrograde dissections or aortic wall lesions.

We describe different techniques, endograft designs and deployment improvements to increase endograft-aortic wall apposition.

- **Proximal landing zone:** *Look for a parallel shape*
- **Proximal Bare Stent addition:** *Apply force to appose graft to inner wall*
- **Modify device to have device specific characteristics:** *Use short stents and more flexible stent-grafts*
- **Modify deployment technique:** *Alters device implant configuration to accommodate curves*
- **Modify techniques and graft designs:** *Newer alternative techniques and oncoming endografts dealing with supra-aortic trunks*

Thoracic endografting evolution assures the first line of treatment for aortic pathology, even for arch pathology.