CHIMNEY TECHNIQUE WITH THE INCRAFT® AAA STENT GRAFT SYSTEM TO TREAT PARARENAL AORTIC ANEURYSM IN NARROWED ILIAC AXES

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Clinical case
A 75-year-old man was referred to our center for an asymptomatic PAAA. Because the patient’s comorbidities precluded open surgical repair, an endovascular approach was considered. Pre-operative CTA revealed a saccular PAAA with a maximum diameter of 55 mm. The entire aorta presented a relatively straight anatomy with an α angle of 18° and β angle of 4°. The distance between SMA and the lowest RA was found to be 3 mm, while the distance from the celiac trunk to the lowest RA was 21 mm. In addition, highly calcified and narrowed iliac axes (narrowest right external iliac artery diameter: 5 mm; left: 4.6 mm) were present. FEVAR was excluded due to anatomical restrictions: short distance between SMA and both RAs ostia, and the absence of adequate access vessels. Consequently, considering the diameter of the iliac arteries, an off-label chimney grafts (CGs) to the SMA and both RAs were contemplated, combined with a low profile abdominal aortic device INCRAFT® AAA Stent Graft system (Cordis Corp, Bridgewater, NJ-USA).

Chimney graft procedure
The procedure was performed under general anesthesia; percutaneous CFAs access was achieved via duplex ultrasound guidance. Preclose technique was used with one Perclose ProGlide® (Abbot Vascular, Santa Clara, CA-USA) for each groin, after which, surgical exposures of the right brachial and left axillary arteries were performed. Two 7F × 90-cm Flexor® Shuttle® sheaths (Cook Medical, Inc.; Bloomington, IN-USA) were inserted into the left axillary artery and a 10F × 90-cm Flexor® Shuttle® sheath (Cook Medical, Inc.) into the right brachial artery. All of those sheaths were advanced into the distal descending thoracic aorta and renovisceral branch cannulation was attained. Viabahn® stent grafts (W.L. Gore & Associates, Inc.) were used in all cases and bare-metal nitinol stents were employed to endoline the interior of the covered CGs. Diameter sizing of the aortic stent graft was 30 mm, based on the mean aortic neck diameter (21 mm) and the mean diameter of each of the CGs, according to Lachat’s experience. In the completion angiography, all CGs were patent, the aneurysm was satisfactorily excluded with the presence of a delayed low flow type Ia endoleak.

Conclusions
CGs combined with the low profile INCRAFT® System seem to be feasible for treating PAAA, in high-risk patients unfit for standard EVAR or FEVAR.

Follow-up
Conservative management of EL was adopted. At 24 months’ follow-up, patient was in good clinical condition, with preserved renal function and CTA revealed patency of aortic and visceral grafts and the complete exclusion of AAA without signs of EL.