Endovascular Aneurysm Sealing in patients with challenging aortic anatomy.
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Purpose: The aim of the study was to present our experience in the treatment of aortic aneurysms with challenging anatomy.

Materials and Methods: From January 2014 to October 2016, 51 patients (46 male, 5 female), aged 56-91, underwent implantation of the Nellix stent-graft for AAA, failed EVAR or TEVAR. The procedures were performed under spinal, general or local anesthesia.

Results: The procedures were performed outside the instruction for use in 53% of cases. One celiac, seven SMA and 37 renal chimneys were inserted using axillary access. In post-TEVAR case there was Type II endoleak detected during follow-up and remains under observation. No other endoleaks were found. The average length of hospital stay was 6 days. Three patients required secondary intervention during follow-up. Two patients were readmitted due to secondary aneurysm rupture. In the first case open conversion was performed, the stent-graft with endobags was explanted and replaced with a bifurcated graft. In the second case there was a need to extend EVAS proximally with three chimneys. One occlusion of the uniliac stent-graft was successfully treated with embolectomy. No deaths occurred during follow-up, all prostheses remain patent.

Conclusions: EVAS is an innovative concept in the treatment of AAA designed to target at the causes of secondary interventions such as endoleaks and migration. The promising results of the chimney technique in patients with pararenal aneurysms offer an alternative to open surgery or custom-made fenestrated or branched stent-grafts reducing costs and shortening the time of waiting for interventions.