HOW TO MANAGE CHALLENGING TARGET VISCERAL VESSEL CANNULATION IN COMPLEX AORTIC PROCEDURE

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INTRODUCTION: Fenestrated and branched endograft is considered a viable option for complex aortic aneurysm. Cannulation and stenting of visceral vessels represent a critical step, particularly in case of complex anatomy secondary to tortuosity, visceral vessel angle origin or stenotic lesion.

METHODS: Patients underwent elective FB-EVAR for asymptomatic thoracoabdominal or juxtarenal aneurysm from 2016 to 2022 at single center were included in this study. Renovisceral target vessels (TV), technical success (TS), and TV patency were assessed. Thirtythree patients underwent elective FB-EVAR because of thoracoabdominal aneurysms (n = 4; 12%), juxtarenal and pararenal aneurysms (n = 29; 88%). Five patients (15%) had previous aortic aneurysm repair, endovascular in three cases. Among the 121 treated TV, 18 (15%) were branches and 103 fenestrations (85%).

RESULTS: Cannulation of target vessel was challenging in 13 cases (10%). The Oscor Destino steerable sheath was used as a primary cannulation approach in 2 cases for the coeliac trunk (15%), after failure of the standard cannulation technique in 10 (77%) cases. In four patients, the steerable sheath was advanced from a brachial access. The Aptus tourguide steerable sheath was used in one patient (8%) to cannulate the coeliac trunk from below during BEVAR. Technical success was obtained in all patients (85%) but two which required a second step procedure. Intraoperative complications occurred in 6 patients (0.9%). One patient required a retrograde puncture of superior mesenteric artery to restore the patency after an early intraoperative occlusion. At mean follow up of 23 months, 4 target vessels (3 coeliac trunk and 1 renal artery) occluded (3%).

CONCLUSIONS: Visceral vessels anatomy may impact on FB-EVAR outcomes. Steerable sheath represent an effective adjunctive tool in challenging TVV anatomy.