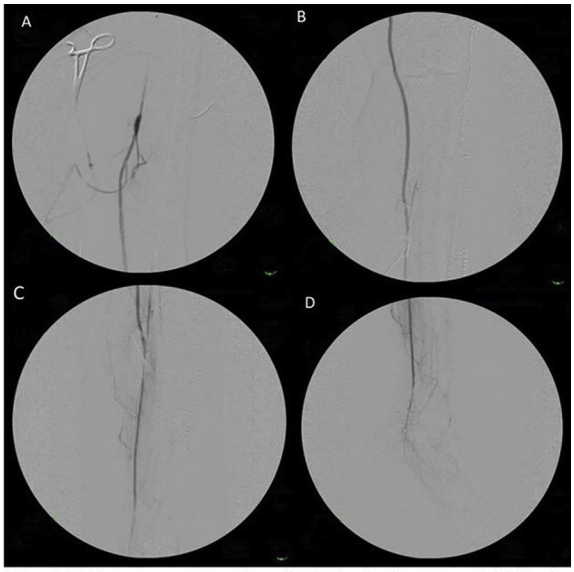

Figure 3 A- D: Postoperative angiography. A. Proximal anastomosis. B. Distal anastomosis. C Posterior tibial artery in leg. D. Posterior tibial artery in foot.

Table 1. Criteria for the classification of Catastrophic APS [5]

1) Evidence of involvement of three or more organs, systems and/or tissues
2) Development of manifestations simultaneously or in less than a week
3) Confirmation by histopathology of small vessel occlusion in at least one organ or tissue
4) Laboratory confirmation of the presence of antiphospholipid antibodies
Definite Catastrophic APS
• All 4 criteria met
Probable Catastrophic APS
• All four criteria, except for only two organs, systems and/or tissues involvement
• All four criteria, except for the absence of laboratory confirmation at least six weeks apart due to the early death of a patient never tested for aPL before the catastrophic APS
• 1, 2 and 4
• 1, 3 and 4 and the development of a third event in more than a week but less than a month, despite anticoagulation

APS, Antiphospholipid syndrome; aPL, antiphospolipid antibodies.

P-007

A Propensity Matched Comparison of Distal Active Fixation *versus* Standard Stent Graft Performances in Challenging Distal Landing Zone After Thoracic Endovascular Aortic Aneurysm Repair

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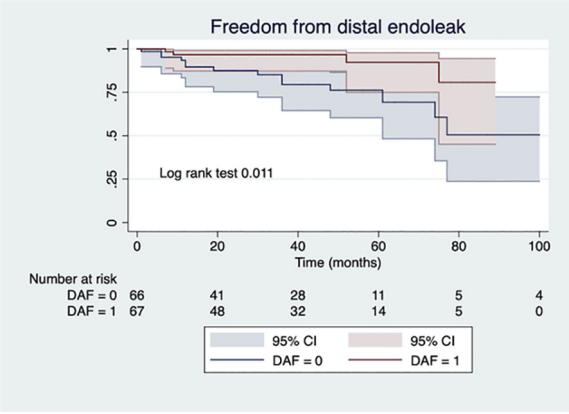
Introduction: Current guidelines highlight thoracic endovascular aneurysm repair (TEVAR) as the first line treatment in patients presenting with descending thoracic aortic aneurysms (DTAAs). However, TEVAR has a higher re-intervention rate, primarily for endoleaks. This stands in stark contrast to the low rate of complications generally associated with TEVAR procedures for other disorders, such as traumatic aortic injuries. Owing to its relevance, the proximal landing zone (LZ) has been the main focus of several publications analysing TEVAR. Nevertheless, some authors have called attention to the relevance of specific issues of the thoracic distal LZ. The objective of this study was to evaluate the outcomes of the distal LZ in TEVAR patients with challenging aortic morphology treated with distal active fixation (DAF) stent grafts *versus* standard stent grafts.

Methods: This was a retrospective, case—control, multicentre study of patients with DTAA treated by TEVAR comparing DAF stent grafts (study group) and standard stent grafts (control group). Five academic tertiary centres participated. Between 2006 and 31 December 2020, 138 TEVAR procedures were performed ($n = 69$ per group). The primary endpoints were distal endoleak and re-intervention. The secondary endpoints were distal segment migration, wedge apposition, and related complications. The distal LZ length and diameter, previous TEVAR, tortuosity index (TI), and maximum diameter were the covariates included in the propensity-scored model (1:1) after univariate and multivariate logistic regression. A linear regression model was applied to investigate the relationship between the wedge apposition, the aortic angulation, and the TI. Kaplan—Meier analysis was used to estimate freedom from distal endoleak and freedom from distal re-intervention, with their standard error (SE) and log rank test.

Results: Results were reported for the DAF *versus* control group, and are summarised in the Table. Mean ± SD length of follow up was 3.3 ± 2.1 *versus* 3.7 ± 3.4 years. Distal LZ diameter and length were 32.6 ± 5.4 *versus* 31.1 ± 5.5 and 27.0 ± 23.5 *versus* 26.0 ± 11.3 mm, respectively. Distal endoleak rate was 7.3% *versus* 27.5% ($p = .011$). Freedom from distal endoleak was 95% (SE 2.7%), 95% (SE 2.7%), and 91% (SE 5.1%) *versus* 85% (SE 4.4%), 76% (SE 6.1%), and 73% (SE 6.6%) at one, three, and five years, respectively (log rank $p = .011$; Fig. 1). TI and distal thoracic aorta angulation were predictors of endoleak ($p = .012$ and $p = .29$, respectively). The distal re-intervention rate was 7.3% *versus* 20.3% ($p = .026$). Freedom from distal re-interventions was 95% (SE 2.7%), 95% (SE 2.7%), and 91% (SE 5.1%) *versus* 92% (SE 3.6%), 75% (SE 6.5%), and 75% (SE 6.5%) at one, three, and five years, respectively (log rank $p = .041$; Fig. 2). The wedge apposition was 5.8 *versus* 13.0 mm ($p < .000$). The distal thoracic aorta angulation, as well as the TI, were significant independent risk factor for wedge apposition ($p = .000$ and $p = .010$, respectively). A wedge apposition variation of > 10 mm was lower in the DAF group ($p = .039$). The distal segment migration was upward directed in all cases and was significant (>10 mm) in 13.0% *versus* 39.1% ($p = .000$).

Conclusion: The DAF stent graft showed a significant reduction in both distal endoleak rates and distal re-interventions. Wedge apposition is a known risk factor for endoleak. A dedicated analysis outlined aortic angulation and the TI as risk factors for wedge apposition. DAF stent grafts appeared capable of significantly reducing both wedge apposition and its worsening during follow up. In addition, this type of fixation was able to prevent distal component migration. The relevance of these results should be emphasised owing to the treated patients' adverse anatomy. Issues related to the thoracic distal LZ were not studied in depth,



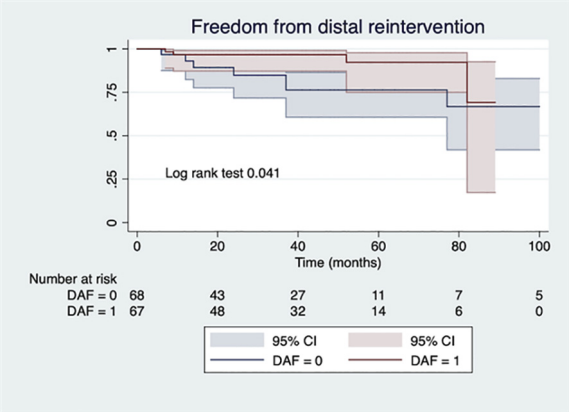


Table. Results

Study groups	Distal Active fixation n (%) or mean ± SD	Standard n (%) or mean ± SD	p-value
Patients, n	n= 69 (50)	n= 69 (50)	
Overall type-Ib endoleak	5 (7.3)	19 (27.5)	.002
Overall distal reinterventions	5 (7.3)	14 (20.3)	.026
Mortality	29 (42.0)	25 (36.2)	.485
Aneurysm related-mortality	4 (5.8)	4 (5.8)	1.000
In-hospital (after rTEVAR)	2 (2.9)	2 (2.9)	
Late (rDTAA)	2 (2.9)	2 (2.9)	
Early outcomes (<30-day)			
Technical success	68 (98.6)	69 (100)	.316
Intra-operative adjunctive procedure	4 (5.8)	9 (13.0)	.145
Distal oversizing, %	18.6 ± 8.0	17.6 ± 6.3	.454
Celiac trunk coverage	13 (18.8)	12 (17.4)	.825
Wedge apposition, mm	3.1 ± 4.6	8.9 ± 8.3	< .000
Type-Ib endoleak	1 (1.5)	4 (5.8)	.172
Late outcomes (>30-day)			
Type-Ib endoleak	4 (5.8)	15 (21.7)	.007
Migration distal segment, mm	4.5 ± 11.8	8.5 ± 10.6	.039
Migration distal segment (>10-mm)	9 (13.0)	27 (39.1)	.000
Migration distal segment type			.000
Stent-graft migration	0	20 (29)	
Aortic elongation	50 (72)	29 (42)	
Both	0	7 (10)	
Not-determined (<5-mm)	19 (28)	13 (19)	
Wedge apposition, mm	5.8 ± 7.3	13.0 ± 10.9	< .000
Wedge apposition change (> 10-mm)	10 (14.5)	20 (29.0)	.039

SD, standard deviation; rDTAA, ruptured descending thoracic aortic aneurysm; rTEVAR, thoracic endovascular repair for ruptured aneurysm.

and should be further investigated given their considerable importance.

P-102

The Diameter of the Incompetent Great Saphenous Vein can be a Possible Criterion for its Preservation in Varicose Vein Treatment

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Introduction: The evidence demonstrates that neither endovenous thermal ablation nor surgical removal of the great saphenous vein (GSV) guarantee long term clinical efficacy in varicose veins: recurrence rates at two and five years with both methods are the same. These facts raise an important issue about the necessity of removal/ablation of GSV trunks and the potential for GSV preservation in some patients. The severity of the clinical course of varicose veins is associated with ambulatory venous pressure. This pressure, which leads to an increase in the diameter of the incompetent vein, is associated with the volume and duration of venous blood reflux. However, the pathological volume of refluxing venous blood can be directed into the physiological flow (eliminated) by the work of the calf pump. As a result, venous pressure decreases. If the GSV diameter is $<$ 5.5 mm, the volume of reflux in it can be eliminated by the calf pump in 94% of cases. Measurement of the diameter of the GSV at a distance of 15 cm from the saphenofemoral junction (SFJ) demonstrated a good correlation ($r = .77$) with CEAP clinical class. These data allowed us to formulate a hypothesis of the possibility of preserving an incompetent GSV if its diameter is $<$ 6 mm.

Methods: This was a prospective, single centre observational cohort study. Seventy-six patients (59 females) with GSV incompetence and C2 — C3 were included in the prospective consecutive case study. The GSV diameter at 15 cm below the SFJ level was the main criterion to identify two groups of patients. Thirty-three patients (25 females, mean age 37.03 year) with a GSV diameter $\leq$ 6 mm were treated with ambulatory selective varices ablation under local anaesthesia (ASVAL). All patients included in the ASVAL group had segmental but not axial reflux. Forty-three patients (34 females, mean age 46.19 years) with a GSV diameter $>$ 6 mm were treated by endovenous laser ablation (EVLA) with concomitant phlebectomy. Clinical and functional outcomes measured by the Venous Clinical Severity Score (VCSS) and clinical recurrence free rate according to the classification of recurrent varicose veins after treatment (PREVAIT) were analysed at the two and five year follow ups.

Results: Two year follow up revealed a statistically significant decrease in the VCSS in both the ASVAL and EVLA groups ($p <$ .001). There was no significant difference between both groups in postoperative VCCS ($p = .68$). The frequency of recurrence did not differ between the ASVAL (18.8%) and EVLA (21.4%) groups after treatment ($p = .78$). Reflux was not significant in the GSV (reflux duration $<$ 0.5 seconds) in 15 (46.9%) ASVAL patients. The diameter of the GSV significantly decreased in the ASVAL group (5.48 *vs.* 5.13; $p = .008$) two years postoperatively. The five year follow up also showed no significant differences in treatment outcomes in both groups. Recurrences were detected in 40.0% of patients in the ASVAL group and 45.6% in the EVLA group ($p = .67$). Repeated interventions were performed in five patients in the ASVAL group and in nine patients in the EVLA group ($p = .93$).

Conclusion: The results obtained in a prospective study of GSV preservation in real clinical practice are encouraging. Further large randomised trials will provide more evidence on this topic.