




Outer/Inner/Upward branches or fenestrations: Strategies for complex aortic repair for patients with Chronic TBADs: Advantages and limitations of each

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Speaker's fees, Consulting

Abbott:
Advisory board

Six patients: B/FEVAR

Fenestrated and Branched Stent-Grafts to Treat Post-Dissection Chronic Aortic Aneurysms After Initial Treatment in the Acute Setting
 Eric L. Verhoeven, MD, PhD¹; Kosmas I. Paraskevas, MD¹; Kyriakos Oikonomou, MD¹; Ozan Yazar, MD¹; Wolfgang Ritter, MD²; Karin Pfister, MD, PhD³; and Piotr Kasprzak, MD⁴

Review > J Cardiovasc Surg (Torino), 2013 Feb;54(1 Suppl 1):97-107.

Chronic type B dissections: are fenestrated and branched endografts an option?
 M Tyrrell, B Maurel, R Azzouli, S Haulon

- ❖ Small true lumen dimensions
- ❖ Difficult cannulations

Systematic Review

A Systematic Review and an Updated Meta-Analysis of Fenestrated/Branched Endovascular Aortic Repair of Chronic Post-Dissection Thoracoabdominal Aortic Aneurysms

Spyridon N. Mylonas¹, Tuna Arax and Bernhard Dorweiler²

Author	Study Design	Study Period	n	Stent Graft Design	F-UP (months)	p-Year
Abdulkadir, M.A., et al., 2019 [12]	retrospective, multicenter	2006-2013	246	209 CMD; Cook, 37 e-branch	24	492.00
Farach, R.J., et al., 2013 [11]	retrospective, single-center	2013-2012	18	all PMSG	12	18.00
Oikarinen, A.L., et al., 2013 [11]	retrospective, single-center	2015-2013	32	all PMSG	11.90	31.73
Yang, C., et al., 2013 [11]	retrospective, single-center	2017-2020	72	all PMSG	39.20	235.20
Margues de Matos, F., et al., 2012 [11]	retrospective, single-center	2010-2013	75	42 fenestrated, 3 branched, 29 combined CMD	29	141.25
Bardic, B., et al., 2012 [11]	retrospective, single-center	2017-2020	30	28 CMD; 2 off-the-shelf	15	37.50
Wang, X., et al., 2012 [11]	retrospective, single-center	2014-2020	39	all PMS	29.4	95.55
Gallina, E., et al., 2012 [11]	retrospective, multicenter	2006-2019	37	33 CMD; 4 off-the-shelf	32	96.47
Venturi, F., et al., 2019 [12]	retrospective, multicenter	2012-2018	21	14 CMD; 7 Tbranch/PMPSG	23	60.25
Milgrom, A., et al., 2013 [11]	retrospective, single-center	2006-2011	15	all CMD	20.4	25.50

CMD: custom-made device; PMSG: physician-modified stent graft.

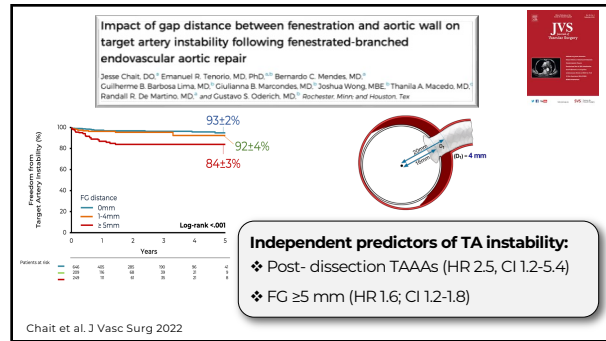
Mylonas et al. J Clin Med 2024.

Systematic Review

A Systematic Review and an Updated Meta-Analysis of Fenestrated/Branched Endovascular Aortic Repair of Chronic Post-Dissection Thoracoabdominal Aortic Aneurysms

- ❖ 585 patients treated for chronic post-dissection TAAAs
- ❖ Technical success: 94%
- ❖ 30-day mortality 2.7%
- ❖ Permanent paraplegia: 2.5%
- ❖ Dialysis: 2%
- ❖ Survival (36-months): 85%
- ❖ Freedom from re-intervention (36-months): 76%





Evolution in endovascular approaches

- ❖ Fenestrated \rightarrow Outer branches \rightarrow Inner branches
- ❖ Off the shelf
- ❖ Device profile
- ❖ Reducing gap to target vessel ostium
- ❖ Trans-femoral approach
- ❖ Choice of mating stent

From the Society for Vascular Surgery

Multicenter trans-Atlantic experience with fenestrated-branched endovascular aortic repair of chronic post-dissection thoracoabdominal aortic aneurysms

- ❖ 246 patients treated for chronic post-dissection TAAAs
- ❖ Fenestrations 581 (63%)
- ❖ Directional branches 336 (37%)
- ❖ Patient specific 209 (85%), tBranch 37 (15%)

Abdelhalim et al. J Vasc Surg 2023

Outer branches

Indications, safety, and effectiveness of transcatheter electro-surgical septotomy during endovascular repair of aortic dissections

Lucas Ruster Kanamori, MD¹, Emanuel R. Tenorio, MD, PhD¹, Dora Baboos, MD¹, Safa Sawaid, MD¹, Aedin Baghibani-Obokati, MD¹, Ying Huang, MD, PhD¹, Andres Figueroa, MD¹, Mira Saranbanu, MD¹, Jose Eduardo Costa Filho, MD¹, Mirza Bang, MD¹, Thania A. Macedo, MD¹, Carlos H. Timaran, MD¹, and Gustavo S. Odierich, MD¹, Houston and Dallas, TX

- ❖ 36 patients
- ❖ Working luminal expansion: $13.2 \pm 4.8 \rightarrow 28.4 \pm 6.8$ mm
- ❖ Technical success 92%
- ❖ Median follow up 8 months
- ❖ 36% secondary interventions

Kanamori et al. J Vasc Surg 2024

Indications, safety, and effectiveness of transcatheter electrocaval septotomy during endovascular repair of aortic dissections

Lucas Butler Kanamori MD, Emanuel B. Tenorio MD PhD, Dora Baboico MD, Safa Savadi MD, Adim Bughiani-Oliveira MD, Yong Huang MD PhD, Andres Figueroa MD, Mira Tamerisum MD, Jose Eduardo Costa Filho MD, Mirza Baig MD, Thania A. Macedo MD, Carlos H. Timaran MD, and Gustavo S. Oderich MD, Houston and Dallas, TX

❖ 36 patients
❖ Working luminal expansion: 13.2 ± 4.8 → 28.4 ± 6.8 mm
❖ Technical success 92%
❖ Median follow up 8 months
❖ 36% secondary interventions

Kanamori et al. J Vasc Surg 2024

Balloon expandable

Self expandable

Balloon vs self expandable

Greater oversizing

Upward renal branches

Re-entry and upward branch

Courtesy Gustavo Oderich

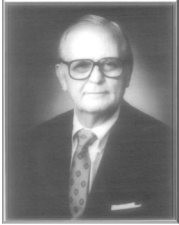
Endovascular management of LSA

68% of cases involving endovascular repair of chronic type B dissection required coverage of the left subclavian artery.

Patel, Modarai et al. J Vasc Surg 2021

Summary and conclusions

- Endovascular TBAD treatment presents challenges
- These challenges require a range of graft designs
- Re-intervention is common
- Paradigms for index Intervention have evolved
- Fertile ground for novel endovascular solutions



E. Stanley Crawford
1922-1992

**“No patient should
be considered
cured of aortic
dissection”**