



**CIRURGIA
VASCULAR**

Hospital Santa Maria

Does the STABILISE and Petticoat techniques increase the risk of SCI?

Luís Mendes Pedro, MD, PhD, FEBVS ¹

Alice Lopes, MD, FEBVS ¹

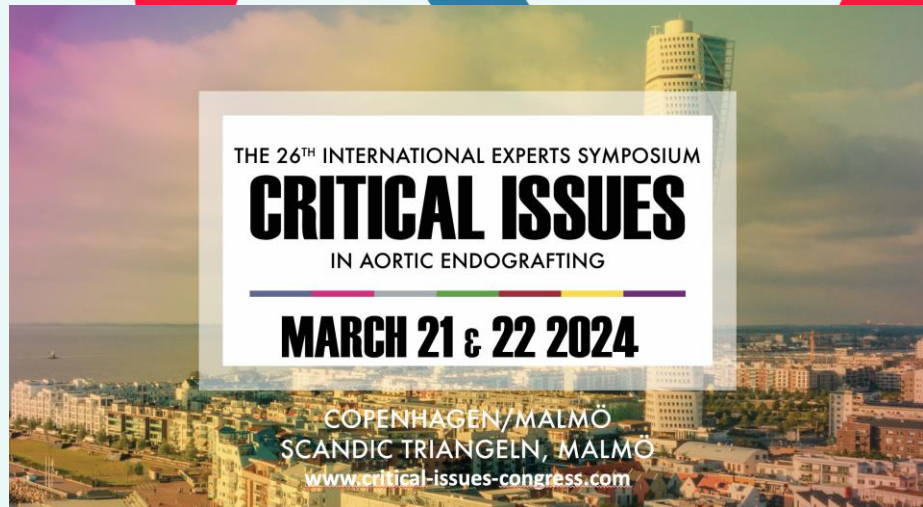
João Leitão, MD ²

Carlos Mendonça, MD ²

Tiago Magalhães, MD ¹

¹ Vascular Surgery Department

² Imagiology Department



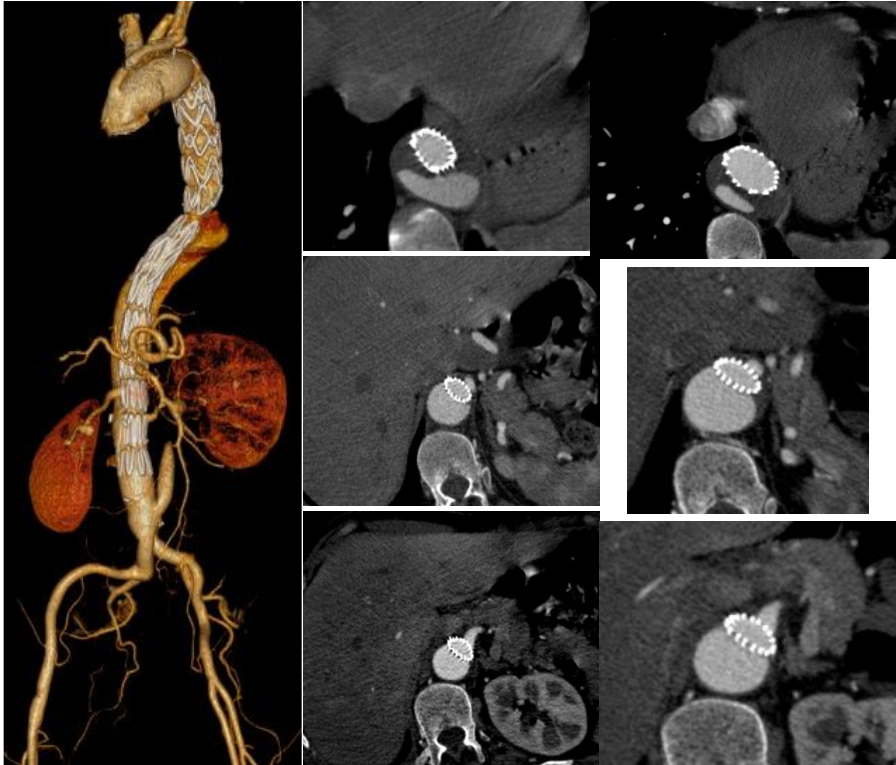
UNIDADE LOCAL DE SAÚDE
SANTA MARIA

DISCLOSURES

Speaker / Consulting / Proctoring fees:

GORE® / ARTIVION® / CORDIS® / COOK®.

PETTICOAT CONCEPT



SCI not a significant issue due to the maintenance of FL perfusion.

STABILISE TECHNIQUE AND RISK OF SCI

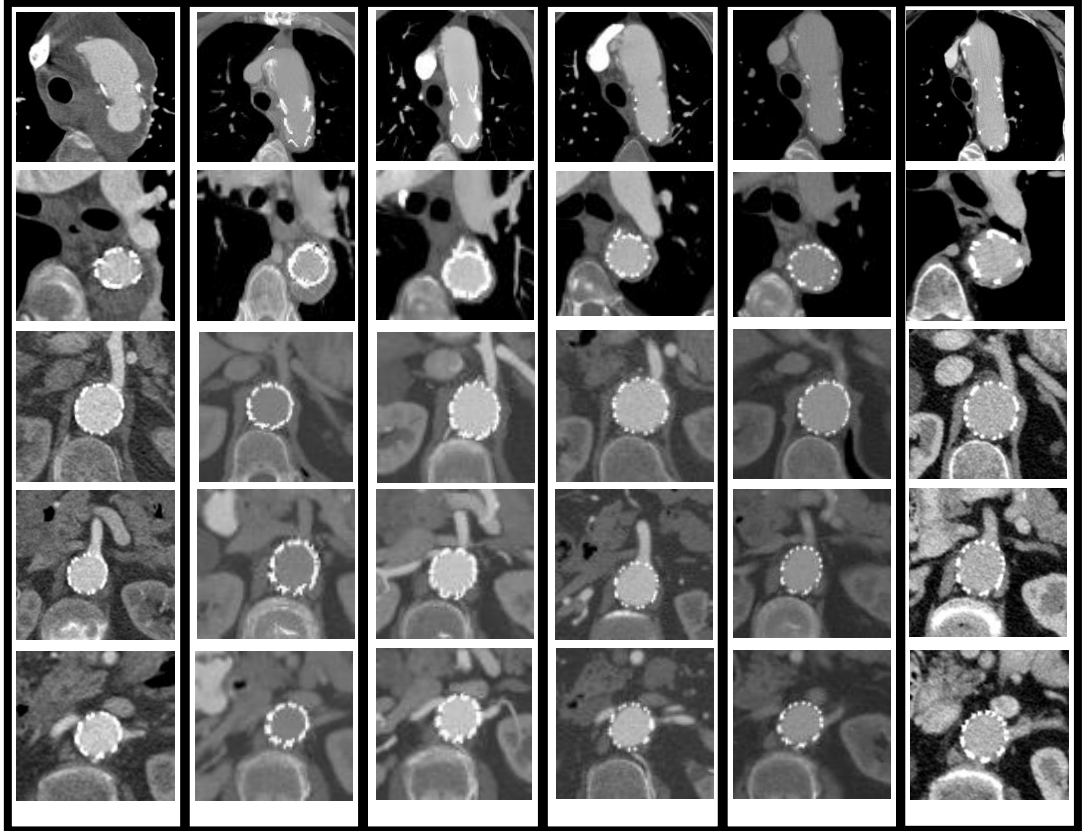
ANOTHER DISCLOSURE: I believe in the STABILISE technique

ACP

6 years



Pre-op CTA-
09/03/2018



11/04/2018

08/06/2018

22/09/2019

10/07/2020

02/02/2022

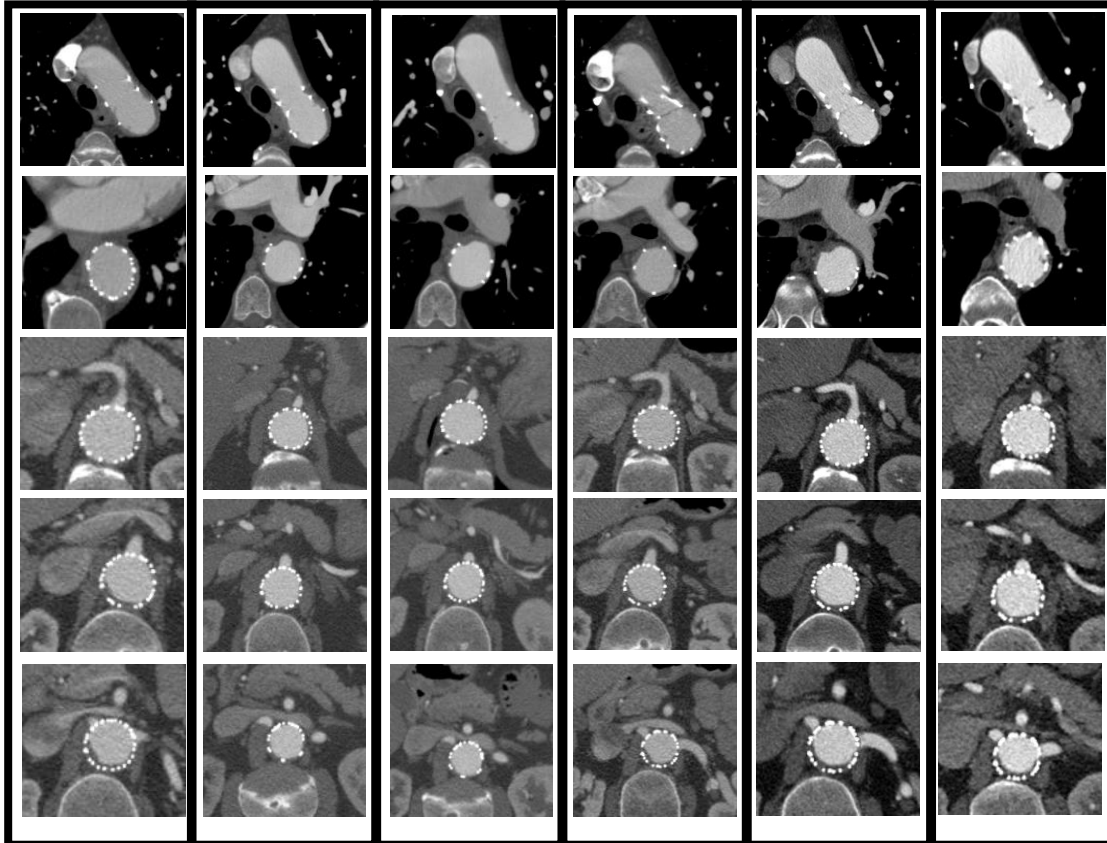
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STABILISE TECHNIQUE AND RISK OF SCI

ANOTHER DISCLOSURE: I believe in the STABILISE technique

JMC

**5.5
years**



Pre-op CTA-
27/07/2018

31/10/2018

15/11/2019

27/11/2020

29/09/2021

07/12/2022

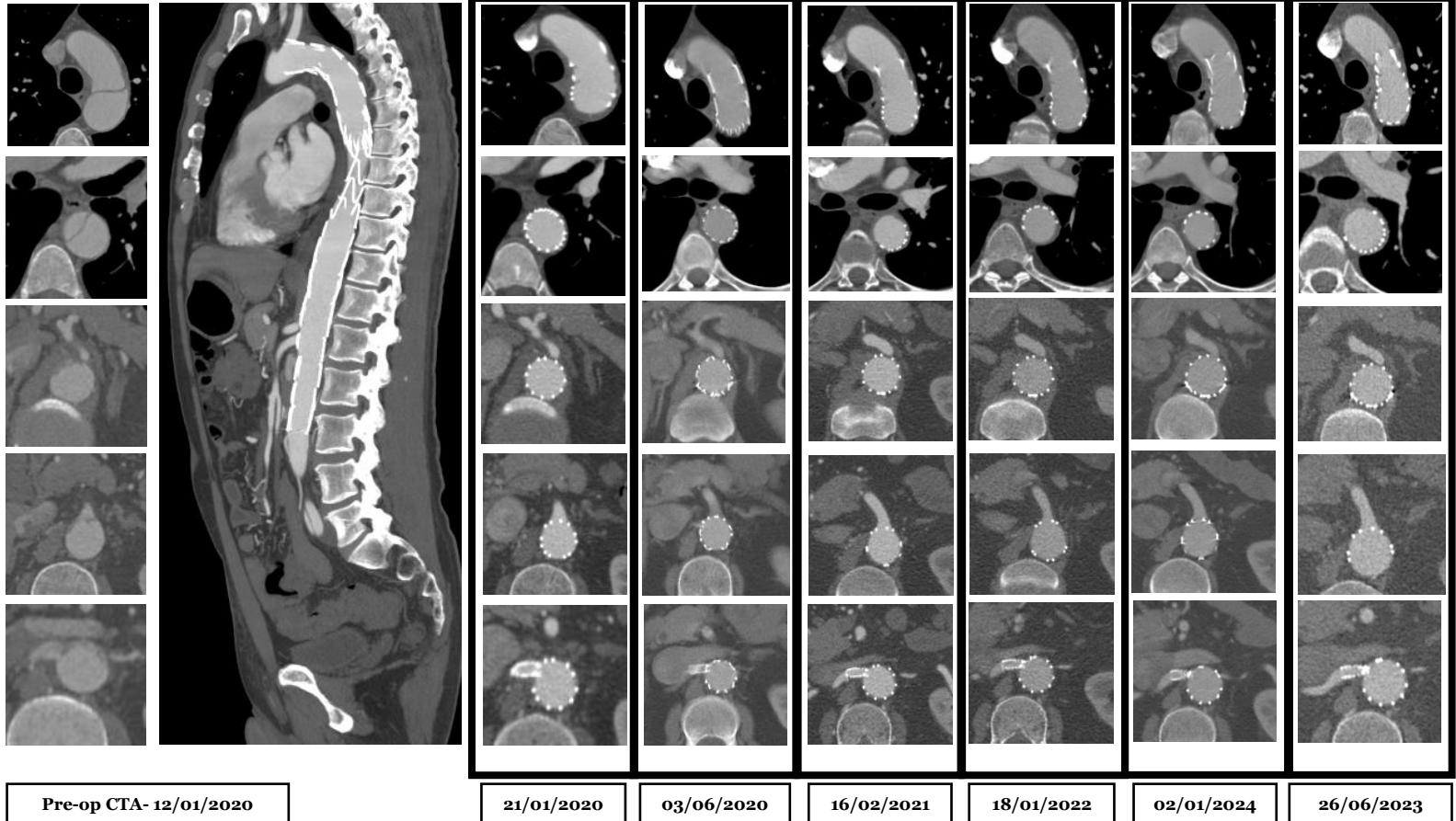
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STABILISE TECHNIQUE AND RISK OF SCI

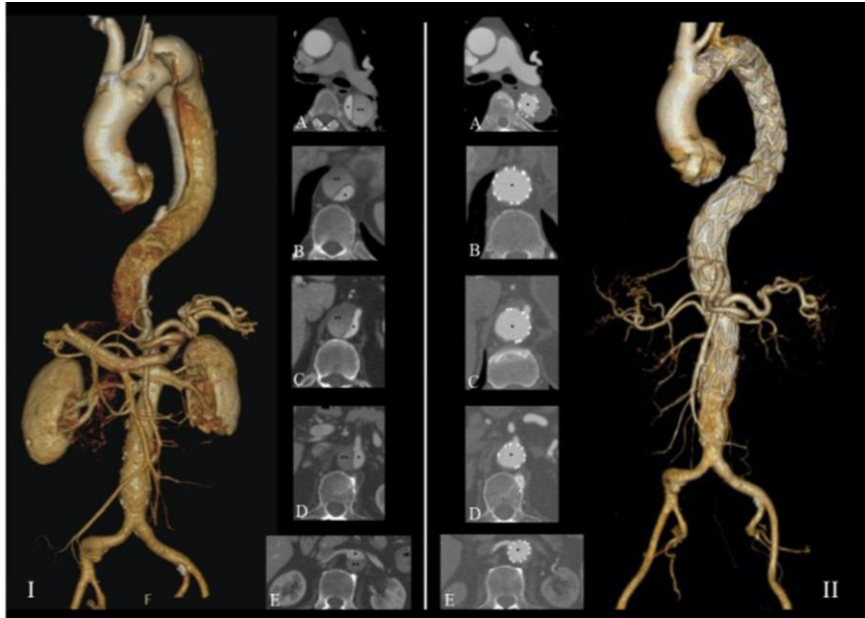
ANOTHER DISCLOSURE: I believe in the STABILISE technique

YB

4 years



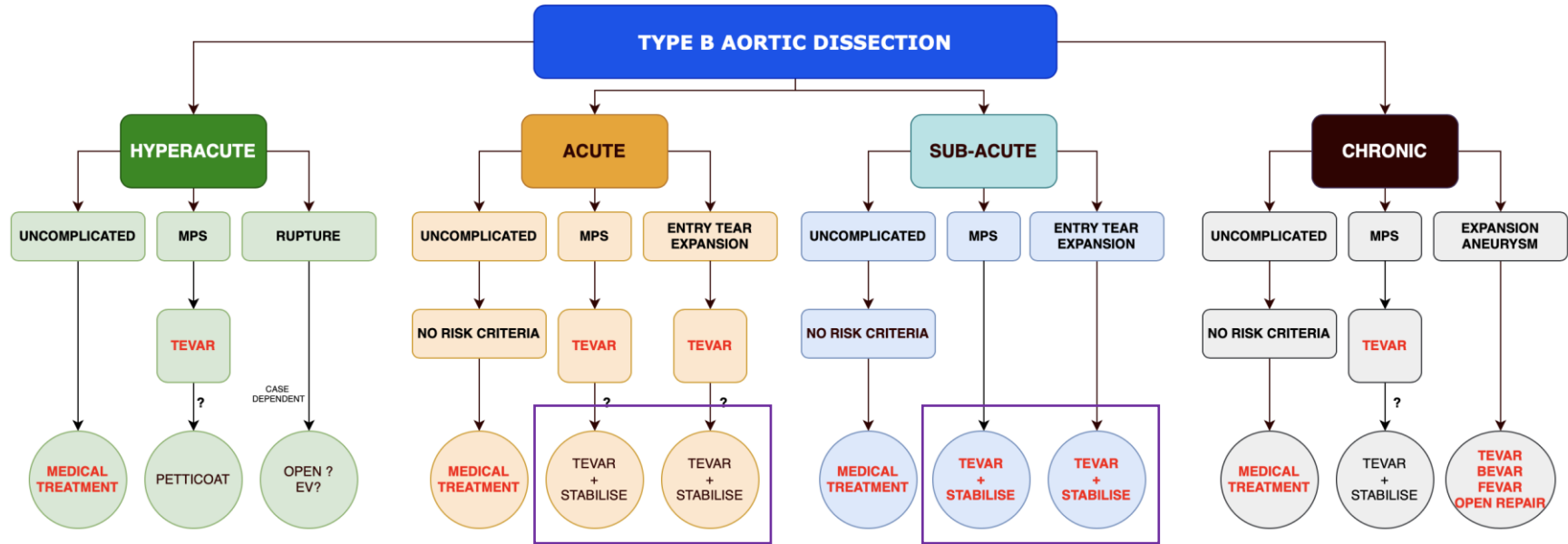
STABILISE TECHNIQUE



WHEN WE DO IT

- Symptomatic TBAD (MPS).
- Sub-acute phase (preferentially).
- Adequate proximal landing zone (debranching?).
- Descending / thoracoabdominal aortic diameter <42 mm.
- No or limited dissection into aortic branches.
- No CTD.

STABILISE TECHNIQUE AND RISK OF SCI



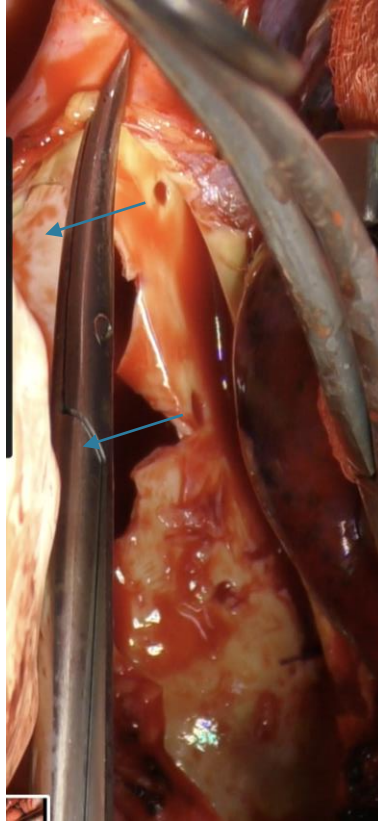
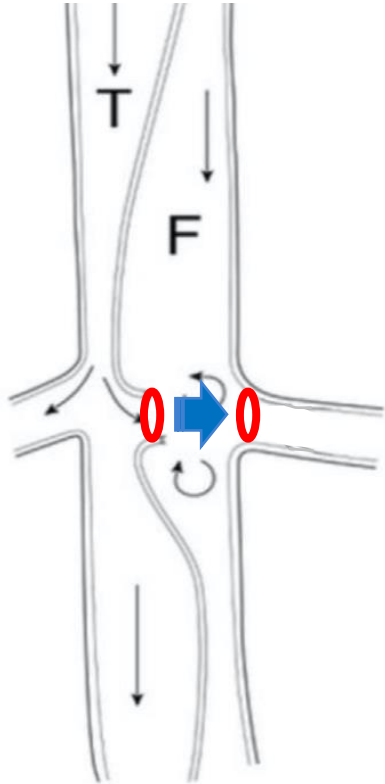
STABILISE TECHNIQUE: unknown issues

- Mid-term and long-term outcomes?
- Prevents unfavourable remodelling?
- Spinal cord ischemia?

STABILISE TECHNIQUE AND RISK OF SCI

Author, year		Cases	SCI (n)	SCI (%)	
Hofferberth, 2014		11	0	0	
Melissano, 2018		10	1	10	temporary paraparesis
Faure, 2018	CTD	41	2	4.9	1 temporary paraparesis; 1 paraplegia
Faure, 2018	Marfan	7	0	0	
Faure, 2018	Type I AD	16	0	0	
Melissano, 2019		35	2	5.7	temporary paraparesis
Faure, 2020	Chronic	17	0	0	
OVERALL		137	5	3.6	

STABILISE TECHNIQUE AND RISK OF SCI



QUESTION:

What is the impact of the STABILISE technique (bare stent dilatation) on the spinal arteries patency?

STABILISE TECHNIQUE AND RISK OF SCI

The fate of spinal arteries after the stent-assisted balloon-induced intimal disruption and relamination in aortic dissection repair technique: A case series

Alice Lopes, MD,^{a,b,c} Ryan Gouveia e Melo, MD,^{a,b,c} João Leitão, MD,^{b,d} Carlos Mendonça, MD,^d Mariana Moutinho, MD,^a and Luís Mendes Pedro, MD, PhD, FEBVS,^{a,b,c} *Lisbon, Portugal*

ABSTRACT

Objective: We evaluated the patency of the spinal arteries (intercostal and lumbar) after the STABILISE (stent-assisted balloon-induced intimal disruption and relamination in aortic dissection repair) technique.

Methods: A retrospective analysis of all patients with aortic dissection treated with the STABILISE technique between April 2018 and July 2021 was performed. Imaging analysis of the spinal cord vascular supply was accomplished using multiplanar and maximum intensity projection reconstructed images of pre- and postoperative computed tomography angiograms at 1 month, 12 months, and annually thereafter.

Results: Twelve patients were treated for complicated aortic dissection. Primary technical success was 100% and mid-term clinical success, at a mean follow-up of 27 ± 12 months, was 90%. No cases of spinal cord ischemia were identified. One patient died after 1 year (non-aortic related), and one patient was lost to follow-up. A significant decrease was found in the mean number of patent spinal arteries in the stent graft area at 1 month ($P < .001$), 1 year ($P < .001$), and 2 years ($P = .004$). However, no significant reduction was found in the number of spinal arteries in either the bare metal stented or nonstented aorta ($P > .05$).

Conclusions: Use of the STABILISE technique decreased intercostal artery patency in the thoracic stent graft area, but spinal artery patency was not significantly affected by the bare metal stent nor its aggressive ballooning. These findings constitute a step toward a better understanding of the safety of this technique. (J Vasc Surg Cases Innov Tech 2023;9:101183.)

Keywords: Aortic dissection; Bare metal stent; Endovascular repair; Spinal cord ischemia; STABILISE; Stent graft

SMALL PILOT COHORT STUDY

- Assessment of intercostal and lumbar arteries patency in pre- and postoperative CTA.
- Imaging analysis of spinal cord vascular supply performed by the same experienced Radiologist.
- 64 slice Philips Extended Brilliance CT equipment; slice thickness of 1mm.
- MPR images, MIP images and 3-D reconstructed images of pre- and postoperative CTA.

STABILISE TECHNIQUE AND RISK OF SCI

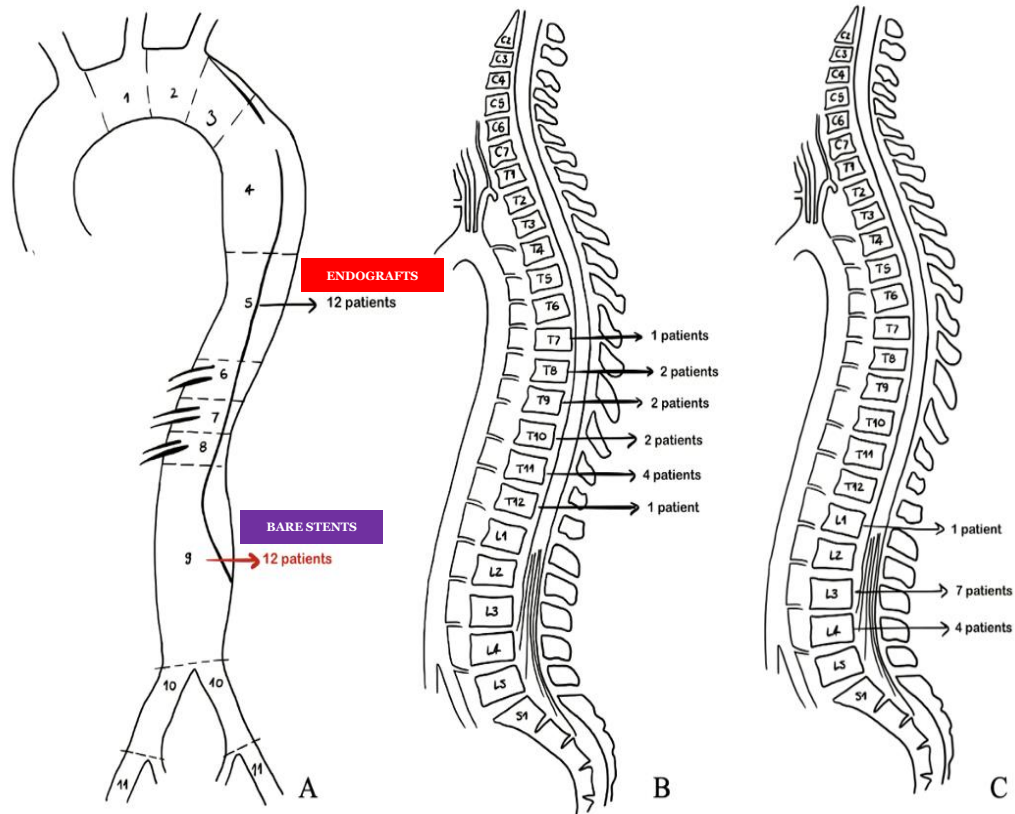
STABILISE TECHNIQUE

N	Sex	Age	Temporal phase	Time since diagnosis (days)	Indication for STABILISE
1	M	71	sub-acute	26	visceral malperfusion
2	M	69	chronic	144	lower limb ischaemia
3	M	42	chronic	98	acute aortic dilatation
4	M	34	acute	6	renal malperfusion; lower limb ischemia
5	M	59	sub-acute	16	lower limb ischaemia; refractory hypertension
6	M	49	acute	5	visceral malperfusion
7	M	53	acute	10	visceral malperfusion
8	M	74	sub-acute	22	acute aortic dilatation
9	M	53	acute	7	acute aortic dilatation; lower limb ischemia
10	M	52	sub-acute	16	renal malperfusion; lower limb ischemia
11	M	61	sub-acute	32	lower limb ischaemia
12	F	68	sub-acute	25	lower limb ischaemia

Procedure	No. (%)
Hybrid TAAD repair	1 (8.3%)
Left carotid-subclavian bypass	6 (50%)
Visceral artery stenting	
SMA	1 (8.3%)
RRA	5 (41.7%)
LRA	1 (8.3%)
Iliac stenting	3 (25%)
CERAB	1 (8.3%)

STABILISE TECHNIQUE AND RISK OF SCI

WHERE DID THE ENDOGRAFTS AND THE BARE STENTS LANDED?



STABILISE TECHNIQUE AND RISK OF SCI

RESULTS

- **No spinal cord ischemia.**
- **No mortality.**

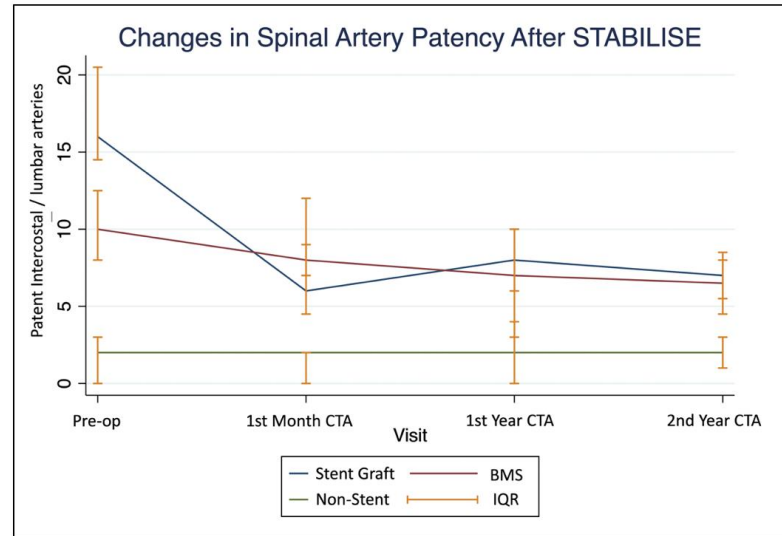


Table IV. Evolution of spinal arteries on computed tomography angiography (CTA)

Area	Baseline	Postoperative					
		1 Month	<i>P</i> value	1 Year	<i>P</i> value	2 Years	<i>P</i> value
Covered endograft	15 (6)	6 (4.5)	<.001	8 (7)	<.001	7 (3.5)	.004
BMS	10 (4.5)	8 (5)	.24	7 (4)	.44	6.5 (3)	.47
Nonstented	2 (3)	2 (2)	.62	2 (4)	.79	2 (2)	.89

BMS, Bare metal stent.

Data presented as median (interquartile range).

SPiRiT: Study on the Patency of spinal aRteries after the STABILISE Technique

- Multicentric (Lisbon, Milan).
- Waiting for the Lombardia Ethical Committee approval (already approved in Portugal).
- Target: 40–50 patients.
- **Open to other centres.**
alicerclopes@gmail.com
luis.pedro@chln.min-saude.pt

REMARKS

- The rate of SCI seems to be low with the STABILISE technique, but the available evidence is limited.
- In this small exploratory study, there was no significant reduction of intercostal and lumbar arteries patency in the bare-stent area after the STABILISE technique.
- Larger studies are needed to evaluate the risk of SCI and a possible role of a staged approach (TEVAR / bare-stent) in selected cases.