Endovascular treatment of TAAA type IV via branched CMD With short proximal Sealing

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Disclosures

- No disclosures on this topic

Background

- Spinal cord ischaemia (SCI) is a devastating complication associated with thoracoabdominal aortic repair, making patients undergoing branched/fenestrated endovascular repair (B/FEVAR) particularly vulnerable.
- SCI is associated with poorer outcomes and lower QOL
- Extent of aortic coverage is associated with higher risk of spinal cord ischemia
- Reported Risk of SCI after FEVAR for type IV TAAAs is 1,2%

Background

With Off-the-Shelf devices high risk of SCI:

- Spanos, Kölbel et al 15-21%
- Spath et al > 3%
- Kitpanit et al 3-30%

> J Endovasc Ther. 2023 Jun 6:15266028231179414. doi: 10.1177/15266028231179414. Online ahead of print.

The Association of Sarcopenia and ASA Score to Spinal Cord Ischemia in Patients Treated With the t-Branch Device

Tilo Kölbel [1], Petroula Nana [2], Jose I Torrealba [2], Giuseppe Panuccio [2], Christian-Alexander Behrendt [2], Konstantinos Spanos [1, 2]

Clinical Investigation

Early Outcomes of the t-Branch Off-the-Shelf Multibranched Stent-Graft in Urgent Thoracoabdominal Aortic Aneurysm Repair

Konstantinos Spanos, MD, MSc, PhD[1], Tilo Kölbel, MD, PhD[1], Myrto Theodorakopoulou, MD[1], Franziska Heidemann, MD[1], Fiona Rohlffs, MD[1], Eike Sebastian Debus, MD, PhD[1], and Nikolaos Tsilimparis, MD, PhD[1]

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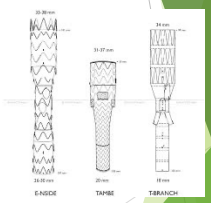
Off The Shelf Endografts

Variable	t-Branch	TAMBE	E-NSIDE
Main graft			
Total length, mm	202	160	208
Proximal sealing zone length, mm	76	35	48

All off the shelf devices require an extensive proximal aortic coverage.



Study Design

Retrospective observational

- May 2019 to December 2022
- 58 patients treated with CMD endoprosthesis with proximal length between 32 and 63 mm
- Post-operative complications Thoraco-abdominal aneurysm type IV, juxta or pararenal PAU; Type IA after EVAR, post-surgical Aneurysms
- follow-up 6 months-3 years

Endpoints

Primary:

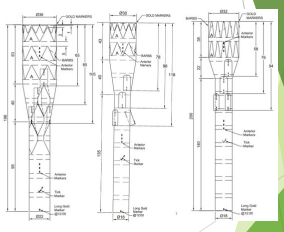
- spinal cord ischaemia
- mortality
- endoleak type IA

Secondary:

- Endoleak types II, IB, IC, III, IV and V
- post-implant syndrome
- graft infection

Materials

- CMD inner and outer branched Cook® with short proximal sealing
- bifurcated Cook® (If necessary with inverted limb)
- Endurant Medtronic®, ISB
- Down to 18F introducing profile



Results

Primary end points:

- Spinal ischaemia: 1.72%.
- Mortality: 8.62%
- Endoprosthesis migration and endoleak type IA: 0%

Secondary end points:

- Endoleak type II type II 55.17%, no other EL
- Endoprosthesis infection: 1 pc
- Post-implant syndrome: 1 pc

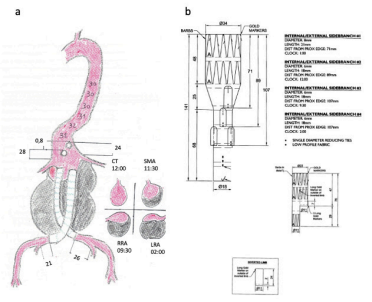
Other factors influencing SCI Risk

- early reperfusion of iliac arteries
- Maintaining mean arterial pressure above 80 mmHg.
- Maintaining haemoglobin levels above 10g/dl.
- A proper preoperative planing
- Shaggy aortic wall

- Previous aortic procedures might be a protective factor for SCI

Short Example

- Failed NELLIX Device with TYPE IA EL
- BEVAR CMD with Short Seal
- Inverted Limb bifurcated graft to reduce further aortic coverage



Discussion

- CMD devices for the treatment of TAAA in segment IV with short sealing are related to low risk of SCI
- Despite of shorter proximal sealing, the risk of Graft migration was 0% in our experience
- CMD BEVAR could be considered as effective as FEVAR for such pathologies, in particular when FEVAR is not feasible
- A Limitation is the manufacturing time (**minimum 1 month for high urgent orders**)

Thank You

- Marco Virgilio Usai MD

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