Evidence for and risks of endovascular treatment of asymptomatic acute type B aortic dissection: Is TEVAR really a good treatment

Rachel Clough, MD PhD FRCS
School of Biomedical Engineering and Imaging Science
St Thomas’ Hospital, King’s College London

Disclosures
Consultant for Cook Medical & Cydar Medical

WHY CONSIDER REPAIR IN UNCOMPLICATED PATIENTS?

Survival

Survival over time

Progressive aortic dilation
Aim of treatment

Pre-TEVAR Day 3 post-op 5 months post-op

False lumen thrombosis and aortic remodelling

BENEFIT MUST OUTWEIGH RISK OF REPAIR

Endovascular repair

Risks of endovascular repair
- Death
- Stroke
- Paraplegia
- Retrograde type A dissection
- Access site injury

Access Narrow true lumen Proximal landing zone

Endovascular repair

Risks in type B dissection
- Death 10.2%
- Stroke 4.9%
- Paraplegia 4.2%
- Retrograde type A dissection 1.6%
- Access site injury 4.5%

Endovascular repair

Co-morbidities
- LSCA coverage

Risks in type B dissection
- Death 10.2%
- Stroke 4.9%
- Paraplegia 4.2%
- Retrograde type A dissection 1.6%
- Access site injury 4.5%

Complex arch morphology
- Connective tissue disease

EFFECTIVENESS OF ENDOVASCULAR REPAIR
Aneurysmal degeneration of type B aortic dissections after thoracic endovascular aortic repair: A systematic review
Marliesa Ferschlaser, DO, Kard Meyermann, MD, and Joseph V. Lombardi, MD, Camden, NJ


4/8 (50%) deaths after TEVAR were aortic related

SECONDARY AORTIC INTERVENTION AFTER TEVAR

• SAI in 27% at mean FU 17±22 months
• Likelihood of SAI similar for acute and chronic dissection
• 26% treated emergently
• Post-op complications in 39%

COMPARSED TO BEST MEDICAL TREATMENT
Endovascular Repair of Acute Uncomplicated Aortic Type B Dissection Promotes Aortic Remodelling: 1 Year Results of the AUIORH trial

PURPOSE: Uncomplicated aortic type B dissection (uiBDD) treated conservatively has a 50% risk of mortality within a year. The objective of the AUIORH trial was to determine whether endovascular repair reduces the rate of adverse events in uiBDD compared to medical management.

METHODS: One hundred and sixty-eight patients were randomized to endovascular repair or medical management. The endovascular group received stent grafts in a setting with uncomplicated dissection. The medical group received standard medical management. The primary endpoint was death, aortic rupture, or endoleak at 1 year.

RESULTS: At 1 year, 80% of the endovascular group and 60% of the medical group were alive without a primary endpoint. The rate of death, aortic rupture, or endoleak was significantly lower in the endovascular group compared to the medical group.

CONCLUSIONS: Endovascular repair is an effective treatment for uiBDD, reducing the rate of adverse events compared to medical management.

Antihypertensive medication adherence in chronic type B aortic dissection is an important consideration in the management debate

Consistently high levels of adherence are crucially important for sustained blood pressure control.

High risk features

- Aortic diameter at initial imaging >40mm
- False lumen diameter at initial imaging >22mm
- Intra-mural haematoma in the proximal landing zone
- Position and size of the primary entry tear
- Connective tissue disease
- False lumen thrombosis
- Multi-luminal aorta

GUIDELINES

Editor's Choice — Management of Descending Thoracic Aortic Diseases

Clinical Practice Guidelines of the European Society for Vascular Surgery (ESVS)

Recommendation 5:

- For all patients with uncomplicated type B aortic dissection, endovascular repair with thoracic endovascular aortic repair (TEVAR) should be the first-line standard of care.

Recommendation 7:

- Patients with uncomplicated type B aortic dissection should be considered for endovascular repair if the primary entry tear is large or if there is evidence of false lumen thrombosis.

Recommendation 10:

- Patients with uncomplicated type B aortic dissection should be considered for endovascular repair if the primary entry tear is large or if there is evidence of false lumen thrombosis.

High risk features

- Aortic diameter at initial imaging >40mm
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- Connective tissue disease
- False lumen thrombosis
- Multi-luminal aorta
Conclusion

- There is no clear advantage of TEVAR over BMT to support the routine repair of patients with acute uncomplicated type B aortic dissection
- Endovascular repair is associated with procedural complications, a high rate of SAI and does not necessarily prevent aneurysm formation and aortic rupture
- Further randomised prospective studies are required