A multi-centre study of short and mid-term outcomes of the AMDS stent in the treatment of acute type A aortic dissection

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Background

The Ascyrus Medical Dissection Stent (AMDS) is an uncovered aortic arch hybrid graft

It was developed to promote true lumen expansion and enhance aortic remodelling in patients undergoing type A aortic dissection repair

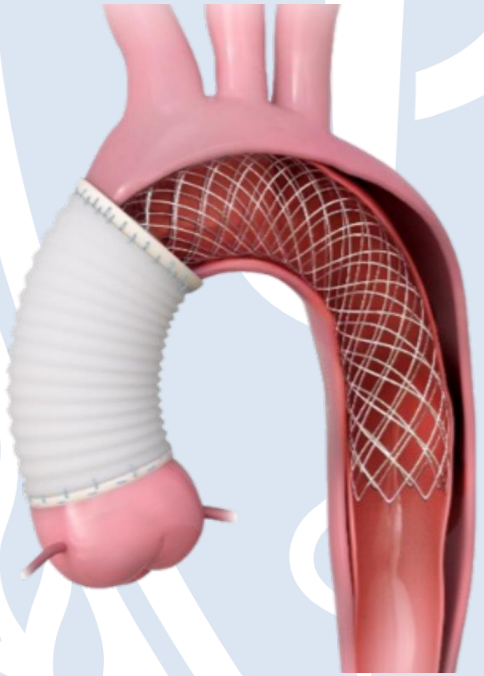
The first implantation in the United Kingdom was performed in early 2021

The objective of this study was to report the short and mid-term outcomes in patients treated with the AMDS

Objectives

In patients with type A aortic dissection treated with the AMDS;

- **Report the short operative outcomes**
- **Report mid-term survival**
- **Report re-intervention free survival**
- **Report aortic related mid-term outcomes**



Methods

Multi-centre retrospective analysis of prospectively collected routine clinical data

All patients with an acute type A aortic dissection who received an AMDS stent between January 2021 and September 2023 included

Anonymised clinical data were transferred to the lead centre for analysis

Patient characteristics

A total of 46 patients across four centres were included

The majority (40, 87.0%) were operated as an emergency with six salvage procedures included

Most patients (33, 71.7%) were male and the mean age at operation was 64.4 (SD 12.0)

The mean EuroSCORE II was 19.8 (SD 16.4)

In-hospital outcomes

12/46 (26.1%) patients presented with malperfusion

The in-hospital mortality rate was 21.7% overall

The in-hospital mortality rate was 15.0% for non-salvage patients

Mid-term outcomes

The mean duration of follow-up was 10 months (maximum 30 months)

There were no post-discharge deaths

One patient required further aortic intervention

False lumen thrombosis was demonstrated in 70% (23/33) of patients

There was evidence of descending aortic growth in 27.2% (9/32) of patients

Conclusions

This study demonstrates that the AMDS can be used safely and effectively in patients with acute type A aortic dissection who present with or without malperfusion

No patients died during follow-up after discharge and positive remodelling of the false lumen was seen in the majority of patients

Further studies are required to demonstrate the long-term outcomes of the AMDS device and further define its role in the treatment of acute type A aortic dissection