My Experience in the Ascending Aorta

Ian Loftus
St Georges Vascular Institute
London UK
Disclosures

• Research funding: Cook Medical
Endovascular Treatment Acute Type A Aortic Dissection

- Morphological suitability for EVR

- Appropriate case load – ‘surgical turn downs’

- Technical aspects and endograft design

- Clinical scenarios

- Future strategy
- Proximal and distal LZ > 20mm
- True lumen < 38mm
- Total aortic diameter < 46mm
- Absence of significant aortic regurgitation

- 102 patients
  - 32 tubular endograft ascending
    - 8 with debranching
  - 13 with branched endograft
# The International Registry of Acute Aortic Dissection (IRAD)

## Table 4. Management and Outcomes of Acute Aortic Dissection

<table>
<thead>
<tr>
<th>Type A (n = 289) Management, No. (%)</th>
<th>Surgical</th>
<th>Medical</th>
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<tbody>
<tr>
<td>No.</td>
<td>208 (72)</td>
<td>81 (28)</td>
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<tr>
<td>In-hospital mortality</td>
<td>54 (26)</td>
<td>47 (58)</td>
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<tr>
<td>Total*</td>
<td>101 (34.9)</td>
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**Conclusions**
Acute aortic dissection presents with a wide range of manifestations, and clinical findings are often absent. A high clinical index of suspicion is necessary. Despite recent advances, in-hospital mortality rates remain high. Our data support the need for continued improvement in prevention, diagnosis, and management of acute aortic dissection.

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Cook Medical Type A Dissection Device

- Device diameters – 28-46mm
- Device length– 65mm covered 85mm total
- Delivery system
  - 100cm length Flexor system 16 – 20 Fr
  - Soft, flexible, tip
  - Hydrophilic coated for improved tracking
Cook Medical Type A Dissection Device
Procedural Details

- ECG gated CT and 3D workstation
- TOE pre and intra-procedurally
- Consignment stock of ascending grafts
- Femoral access where possible
- 5-10% oversizing
- Overdrive pacing for cardiac standstill
Progress in Endovascular Management of Type A Dissection


Abstract

Primary acute aortic dissection (type A) remains a disease with a poor prognosis. High perioperative open surgical mortality (up to 30%) and a significant turn-down rate (up to 40%) substantially impact the overall outcomes of patients with type A aortic dissection. Endovascular stent grafting has revolutionized the treatment of type B aortic dissection. Endovascular stent grafting is now leading to improved outcomes of treatment for type A dissection by offering lower mortality and morbidity rates compared to open surgery. The technique has been in use for over a decade and can be performed in patients who are not suitable for open surgery. Endovascular stent grafting is therefore considered the primary treatment for type A dissection. This review provides an overview of current endovascular techniques used to treat type A dissection and discusses their potential limitations and future directions.

Introduction

Type A acute aortic dissection (TAAD) is a catastrophic aortic disease that requires immediate medical intervention. Although surgical techniques have improved over the years, improvements in surgical outcomes have not been as significant as those in endovascular therapy. The use of endovascular stent grafts has been successful in treating type A aortic dissection, particularly in patients who are not suitable for open surgery. The outcomes of endovascular therapy are superior to those of open surgery and have significantly reduced the mortality rate for patients with type A dissection. This review will discuss the advances in endovascular therapy for type A dissection and highlight the potential limitations of current techniques.

Epidemiology

The reported incidence of type A dissection is 2.9-4.3 cases per 100,000 persons per year. The incidence appears to be rising, although this may simply be a function of improved diagnostic imaging. The incidence of type A dissection is highest in men and is most common in men aged 65 years or older. The principle risk factors for type A dissection are hypertension, aortic dissection, congenital...
Conclusion and Discussion

- Endovascular treatment ascending aorta feasible
  - Dedicated devices essential
  - Insufficient data to define outcomes
  - Proof of concept in compassionate use
  - Real challenge is how to expand use

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