Successes And Limitations Of Endograft Treatment Of Aortic Infections: When Can It Be Effective Definitive Treatment And When It Can Only Be A Bridge To Definitive Open Treatment

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**DISCLOSURES**

- Medtronic: Consultancy, Speakers fees, travel and conference fees
- Orzone: Consultancy and Institutional level capital funding
- Bolton Medical: Consultancy, speakers fees, travel and conference fees
- Gore: Travel and conference fees

**THE INFECTED AORTA AND INFECTED AORTIC GRAFTS**

- Primary aortic infection
- Primary aorto-enteric fistula
- Infected aortic stent grafts
- Secondary infection and aorto-enteric fistula

A significant clinical issue
Incidence increasing
Difficult management
Present (or are diagnosed) late, often significant co-morbidity and malnourished

**EMERGENCY ENDOVASCULAR SALVAGE**

- Primary infection and symptomatic cases or rupture
- Primary Aorto-enteric fistula
- Secondary infection and bleeding or Aorto-enteric fistula

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Imperial series of primary aortic infection

- One death in our series in the endovascular group
- Replicated in further series
- Consistently <15%

Systematic review of primary aortic infection

- Systematic review
- 48 cases from 22 reports
- 30-day mortality 10.4%

Success in those without
- Persistent sepsis
- Aorto-enteric fistula
- Some bacterial types - Salmonella

Early mortality (urgent & emergency):
- Open graft excision surgery 25%

Late mortality up to five years:
- Open graft excision surgery 30%

Kaplan-Meier 10-year survival curve of 123 patients treated for a mycotic aortic aneurysm by means of endovascular technique.

66 cases identified and treated as AGI
- Open IRAAA 13
- Aorto-(bi)femoral bypass 12
- Aorto-(bi)iliac bypass 9
- Axillo-(bi)femoral bypass 6
- EVAR 17
- TEVAR 9

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Ongoing AMR surveillance and reporting
- Resistance surveillance
- Emerging resistance

AMR in the clinical setting
- Clinical relevance
- Patient outcomes

AMR in the laboratory setting
- Routine testing
- AMR-positive samples

Antimicrobial resistance
- In 2013, CDC published a report outlining the top 18 drug-resistant threats to the United States.
- Threats are categorized on level of concern: urgent, serious, and concerning.
SIGNIFICANT CONCERNS WITH ENDO TREATMENT

AORTO-ENTERIC FISTULA
• Lead to reinfection and rupture in primary cases treated with endovascular therapy
• Present in a third of patients with infected endografts, more common than thought and only found at surgery

FURTHER INTERVENTIONS
Graft in infection is commonly associated with multiple interventions, providing a further nidus for infection

KEY MESSAGES
• Endovascular treatments in the emergency case is life saving and effective
• For primary aortic infection where there is clearance of sepsis, low virulence micro and no fistula long term results are acceptable
• For secondary cases treated with endo techniques long term recurrence of sepsis is significant
  — Definitive graft excision or
  — Antibiotics and accept palliation