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Treatment Of Infected Aortic Grafts (Endo And Open): Explantation Or Preservation: Technical Tips

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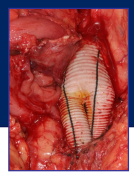

Disclosures

- Educational Grants/Support: Cook, Gore, Medtronic, Terumo aortic
- Advisory board/consultant: Cook, Gore, Terumo and Endologix

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Background

- Aortic graft infection is a complex and challenging clinical problem
- Often associated with complicating factors (ruptures/ sepsis)
- Treatment includes resection/excision, debridement, reconstruction and antimicrobial therapy
- Carries significant morbidity

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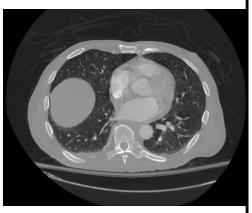
Case of Infected Endograft

79M with extensive aortic history

- Ruptured AAA S/P EVAR with R-IIA coil embolization
- c/b abdominal compartment syndrome s/p ex-lap with mesh placement and closure
- Type 2 endoleak embolization
- Weight loss (30lbs/1m), night sweats, GI bleeding
- CTA : aortic graft infection, aorto-enteric fistula
- Positive blood cultures: E. Coli



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Multidisciplinary Approach

- Multidisciplinary approach
- Urology for ureteral stents
- GenSurg for management of bowel and abdominal domain (or lack of)
- Vascular Surgery for explant and aortoiliac reconstruction
- Infectious disease for long-term suppression

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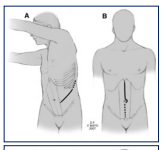
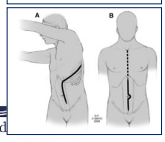
Surgical Approach





Area to be treated and position of graft

Body habitus

Need for medial visceral rotation

Position of proximal clamp

Relation of endograft to visceral/ renal arteries

Prox. aneurysm or debris

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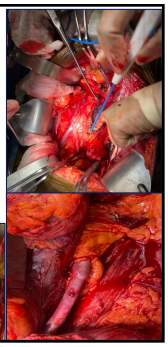
Surgical Technique

- Left retroperitoneal incision
- Large amount of purulence encountered
- Intra-op cultures sent
- Supra-celiac and suprarenal clamp sites developed
- EVAR main body graft explanted in its entirety
- Copious irrigation of aortic bed
- Reconstruction using femoral vein



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Surgical Technique

- Left to right femoral femoral bypass with femoral vein
- Ligation of the REIA through the right groin approach
- Sartorius flap for coverage for groin closure
- Right RP approach to ligate the right EIA and internal iliac artery aneurysm
- General Surgery for duodenal repair

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Tools for Endograft Explant

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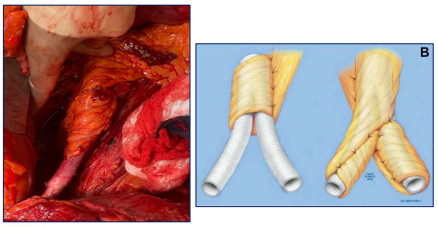
Omental Wrap Reduces Risk of Reinfection



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Oderich et al. J Vasc Surg. 2011 Jan;53(1):99-106, 107.e1-7; discussion 106-7. doi: 10.1016/j.jvs.2010.08.018

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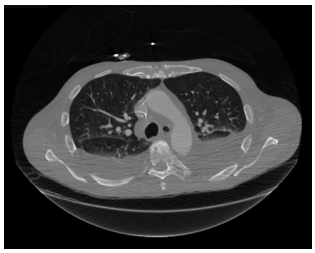
Post Operative Course

- Patient discharged to rehabilitation facility on 6-week course of IV antibiotics with lifelong suppressive therapy
- Patient discharged home after 2 weeks in rehabilitation facility



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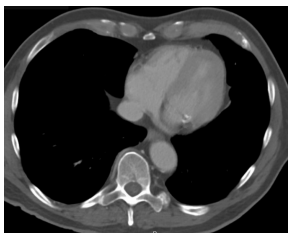
Case with Preservation

- 85yo with hx of endovascular AAA in 2017
- PMH:
  - HTN, HLD
  - Diabetic
  - Stroke with expressive aphasia
  - CAD with hx of PCI
  - Polymyalgia rheumatica
- Frail appearing



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Treatment Options

- Explant and reconstruct
  - In situ
  - Extra-anatomic
- Considerations and Risks:
  - Visceral/renal involvement
  - Debranch? Intraperitoneal
  - Sacrifice renals? Dialysis, increased associated mortality
  - High mortality risk

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Factors that Impact Explant vs Preservation

- Patient physiology
- Involved micro-organism(s)
  - Indolent infection vs virulent infections
- Presence of pseudoaneurysm/bleeding
- Presence of enteric/bronchial fistula
- Technical expertise

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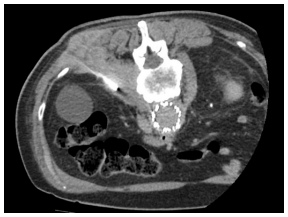
Treatment

- Perc drainage of abscess
- Lactobacillus Rhamnosus 2019
- 6weeks IV abx and then PO suppressive Doxycycline
- Subsequent cultures negative



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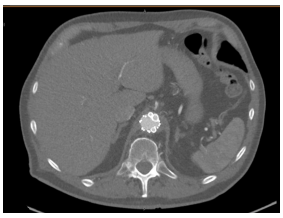
Most Recent Scan



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European Journal of Vascular & Endovascular Surgery

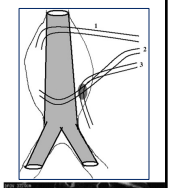
esvs Journal

SHORT REPORT / VOLUME 34, ISSUE 2, P191-193, AUGUST 01, 2007

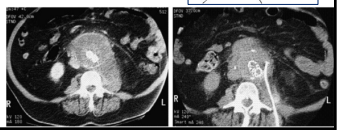
PDF (337

Aortic Endograft Infection: Open Surgical Management with Endograft Preservation

S.J. Hulin & ✉ • G.E. Morris



- Surgical debridement
- Open sac with lavage
- Multiple drains and antibiotic packed foam
- IV abx w/ suppressive long-term PO abx



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Review > J Endovasc Ther. 2014 Jun;21(3):448-55. doi: 10.1583/13-4575MR.1.

Outcome after preservation of infected abdominal aortic endografts

Konstantinos G Moulakakis [1], George S Sfyroeras, Spyridon N Mylonas, George Mantas, Anastasios Papapetrou, Constantine N Antonopoulos, John D Kakisis, Christos D Liapis

- Reviewed 17 articles with 29 patients
- In-hospital mortality was 21%
- Graft preservation with drainage/ irrigation or omentoplasty – 60%
- At 1-year overall mortality was 45%
- AEF in 24% - 100% mortality

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Conclusion

- Explant of the graft in its entirety is ideal
- Preservation is an alternate approach in carefully selected patients
- Thoughtful planning and technical conduct can result in acceptable outcomes through both approaches

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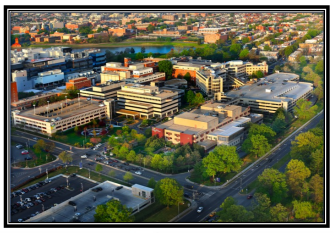
Thank you



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