


11-23-2024




Rifampin Soaked Endografts To Treat Mycotic AAAs: How To Prepare Them And When To Use Them: Are They Stand-Alone Treatment Or Do They Need Adjunctive Techniques?

Dr. Guillermo A. Escobar




Conflicts of interest

- None





Open surgery for mycotic aneurysms is not perfect

- While logical, has a mortality of at least ~40% in mAAA -> even higher in the chest
- Sick, old, infected patients do poorly with major open operations
- Endografts have a lower M+M overall




Theoretical reasons NOT to use endografts- Dogma?

- A prosthetic endograft in an infected aorta = infected endograft
- Not removing the infected tissue creates an abscess outside the endograft
- For aorto-enteric fistulae you HAVE to replace the aorta





- 64 y/o with back pain
- Saccular TAA treated with TEVAR.....
- 2 weeks later has fever, abdominal pain and back pain



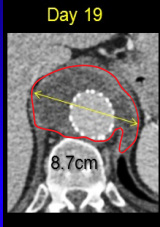
Endograft in an infection = abscess

Day 0




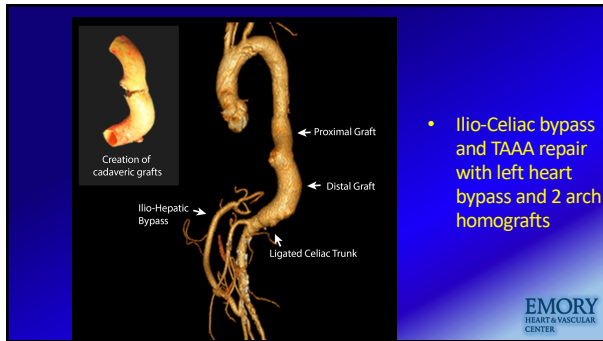
5.5cm

Day 19



8.7cm





- Ilio-Celiac bypass and TAAA repair with left heart bypass and 2 arch homografts

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But what about cases you can't/shouldn't do open?

- 44 y/o IV drug user with recurrent *S. aureus* endocarditis and bacteremia
- Previous aorto-bifemoral (occluded), iliac stents and many laparotomies for bowel obstructions resulting in an ileostomy and short bowel syndrome
- CTA and Indium scan positive for >2cm mycotic AAA

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OPEN REPAIR!

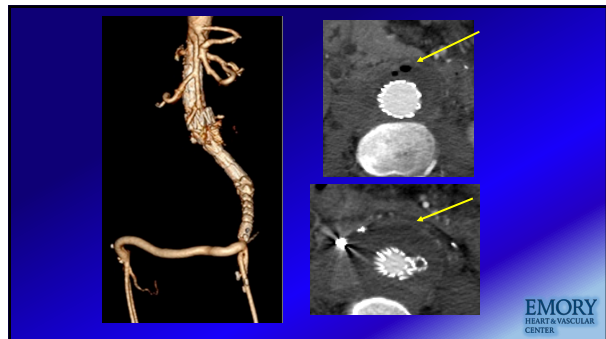
- We tried for hours to re-enter the abdomen and use femoral vein...

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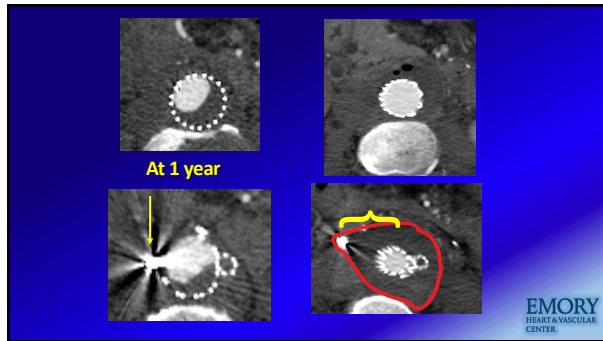
Went endo...used a Cook Uni-iliac graft + Femoral-femoral bypass...

BUT added Rifampin to the Dacron endograft (and the fem-fem)

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Rifampin with endografts

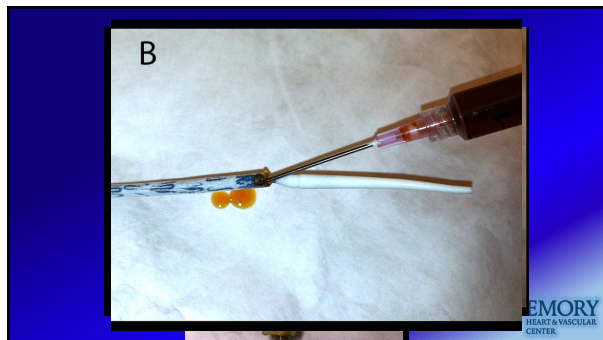
Selected Techniques

Rifampin Soaking Dacron-Based Endografts for Implantation in Infected Aortic Aneurysms—New Application of a Time-Tested Principle

Guillermo A. Escobar,¹ Jonathan L. Eliason,² Justin Hurie,³ Shipra Arya,⁴ John E. Rectenwald,² and Dawn M. Coleman,² Little Rock, Arkansas

Ann Vasc Surg. 2014 Apr;28(3):744-8.

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Theoretical reasons NOT to use endografts

FALSE!

- Endografts in infected aorta will immediately get infected and make it worse
- You have to resect and bypass, or replace the aorta with autologous tissue (vein/homograft) or Rifampin-Dacron grafts- especially aorto-enteric fistulae
- Not removing the infected tissue will lead to worsening of the infection -> create an abscess in the aorta

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Aorto-enteric fistulae?

- Multiple abdominal hernias and bowel resections + skin graft on bowel

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Theoretical reasons NOT to use endografts

- Endografts in infected aorta will immediately get infected - **FALSE!** and make it worse
- You have to resect and **FALSE!** replace the aorta with autologous tissue (vein/homograft) or Rifampin + tetracycline grafts- especially aorto-enteric fistulae
- Not removing the infected tissue will lead to worsening of the infection -> create an abscess in the aorta



Aorto-esophageal fistula?

- 69 y/o Male in hemorrhagic shock, hematemesis from Aorto-esophageal fistula



Primary aorto-esophageal fistula from type B dissection aneurysm

Rifampin + TEVAR to the rescue!





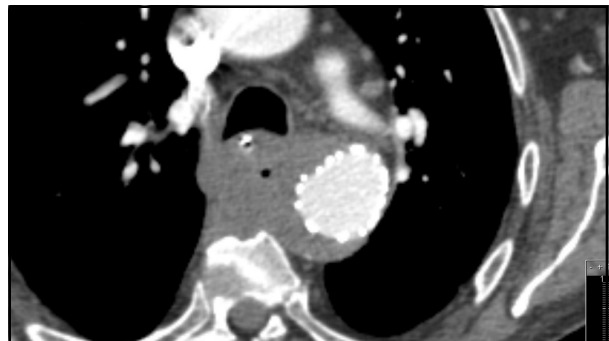
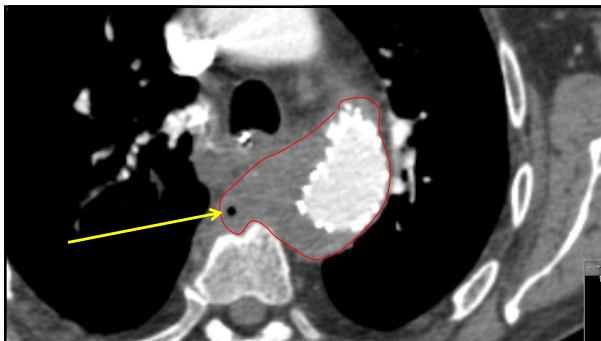
- Plan was to temporize and do definitive repair
- POD 9 had cervical esogagostomy and diversion
- Went home with a plan for later repair

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But.....

- Returned with fever and malaise.

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The problem with enteric fistulae

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“Longer” term...

- at 1.5 years she came back with a retroperitoneal abscess
- BUT in a much better physiological state!
- Axilo-femoral and open aortic resection with a gastro-jejunostomy was needed...semi-electively!

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Theoretical reasons NOT to use endografts

- Putting a prosthetic endograft into an infected aorta implies it will immediately get infected
- You have to replace the aorta with autologous tissue (vein/homograft) or a Dacron grafts for aorto-enteric fistulae
- Not removing the infected tissue will lead to worsening of the infection -> create an abscess in the aorta

FALSE!
FALSE!
FALSE!

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Conclusions

- may even lead to cases
- primary aortic

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Conclusions

- I have also added transthoracic catheter and tail drain and infused Rifampin into the peritoneum
- TPN on aorto-enteric fistula +/- Diflucan
- I use ABX for life (Ampicillin)
- Have a good plan “B” in 2 weeks or 2 months
- Deploy them low, or high

*Lawrence PF. Conservative treatment of aorto-enteric fistula. J Vasc Med Biol. 2011;24(4):199-204.

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Thank you

Guillermo A. Escobar, MD

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