

Aortoiliac Endograft Infection with Propionibacterium Species

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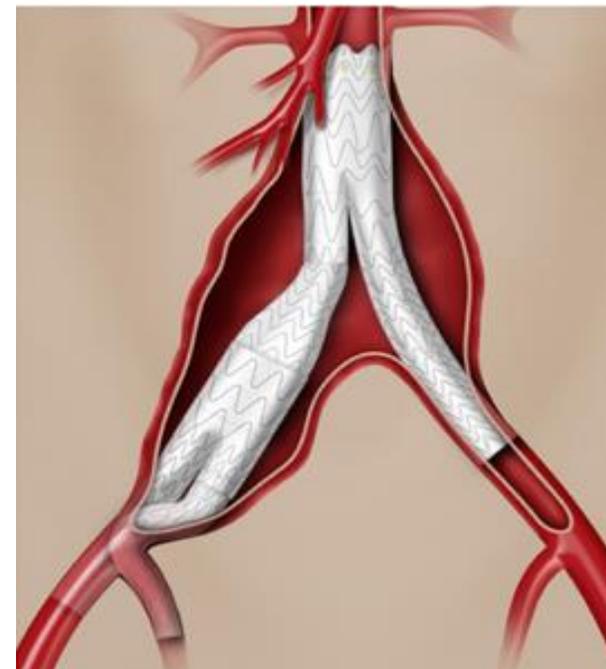


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Case Presentation

- 57yo male presenting with bilateral common iliac aneurysms, left – 3.6cm and right – 2.7cm
- Underwent endovascular aortic repair (EVAR) with a left iliac branch device and right internal iliac coil embolization



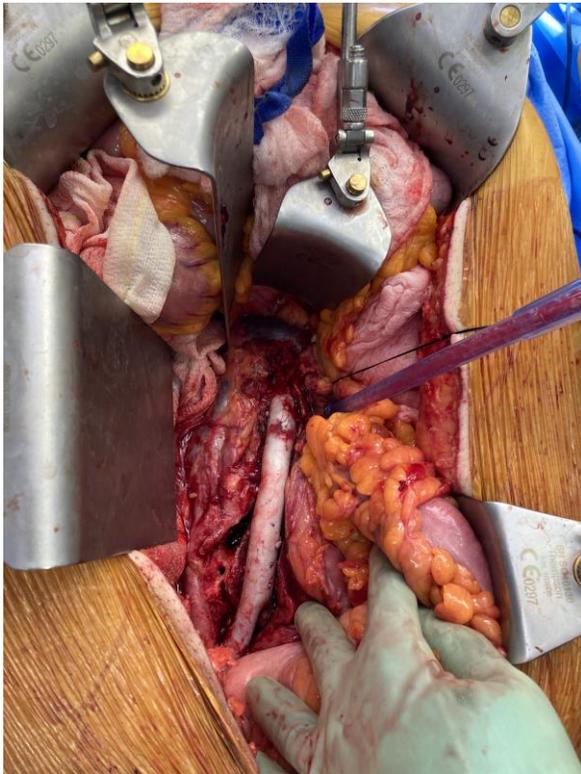
Case Presentation

- Patient presented to hospital 1 month post-op later with fatigue, right groin and thigh pain, fever and shortness of breath
 - Positive for COVID-19
- Re-presented with persistent fatigue, worsening fever, right groin and thigh pain
- Computed Tomography Angiogram (CTA) imaging revealed air around graft along with significant stranding and a fluid collection
 - Findings consistent with endograft infection



Operative Plan

- Underwent open aortoiliac endograft explant, open aneurysmal repair with aortobiiliac cadaveric graft placement, and right psoas abscess drainage





Postoperative Course

- Swelling of left lower extremity
 - Managed with compression therapy
- Microbiology cultures speciated *Propionibacterium* species
 - Given prolonged course of antibiotics
 - Unasyn – 6 weeks, Augmentin - Indefinitely
- Follow-up at 1 month and 2 month post-operative with CTA scan show patent interposition repair



Discussion

- Endograft infection following EVAR – 0.1%
- Aortic endograft infection mortality rates – 18% to 50
- Most frequently encountered organisms are *Staphylococcus aureus* and *Streptococcus* spp
- *Propionibacterium* species, an anaerobic gram-positive bacillus, rarely incriminated.



Discussion

- Propionibacterium postoperative infections often seen with prosthetic joints, cerebrovascular, breast implants and cardiovascular devices.
- Propionibacterium is a low virulent and slow growing organism with a long latency period
- Due to the low incidence of aortic stent-graft infections (ASGIs), little clinical, treatment, and surveillance data are available.
- No standardized guidelines for the best treatment of ASGI
- Complete infected stent graft removal with or without extra-anatomical bypass and intravenous antibiotics is often advised.



Conclusion

- Endograft infection after EVAR with a left iliac branch device and right internal iliac coil embolization
- Endograft infection following EVAR is a rare complication (0.1%)
- Propionibacterium is a low virulent, slow growing organism with most often delayed clinical presentation onset
- Preoperative antimicrobial coverage, sterile technique and prompt recognition in any endovascular graft infection are vital in reducing mortality (20-40%)
- Standardized guidelines difficult to statistically support
- Optimal strategy for treatment favors a combination of long term systemic antibiotic coverage along with surgical debridement and explant of infected material



References

- Blanch, Montse, et al. “The Management of Aortic Stent-Graft Infection: Endograft Removal versus Conservative Treatment.” *Annals of Vascular Surgery*, vol. 24, no. 4, 2010, <https://doi.org/10.1016/j.avsg.2009.11.003>.
- Etienne, Harry, et al. “Unusual Acute Onset of Abdominal Aortic Endograft Infection by *Propionibacterium Acnes* after Coil Embolization for Type II Endoleak.” *Annals of Vascular Surgery*, vol. 35, 2016, <https://doi.org/10.1016/j.avsg.2016.01.036>.
- Harlock, John Anthony, et al. “Infected Aortic Stent Graft with *Propionibacterium Acnes*.” *Vascular and Endovascular Surgery*, vol. 47, no. 5, 2013, pp. 394–396., <https://doi.org/10.1177/1538574413487262>.
- Usatii, Anatolie, et al. “Removal of an Infected Aortic Endograft and Open Aortic Reconstruction: Technical Remarks.” *Annals of Vascular Surgery*, vol. 27, no. 5, 2013, pp. 679–683., <https://doi.org/10.1016/j.avsg.2012.09.007>.

Thank You

