

A Rare Case of Q Fever Presenting as Aortitis

Saloni Goyal, DO¹; Brain Friel, DO²

¹Department of Internal Medicine, ²Department of Infectious Disease, Lehigh Valley Health Network, Allentown, PA

Introduction

- Q fever is a rare infection caused by the gram negative bacterium *Coxiella Burnetii* that can lead to disease in humans following ingestion or inhalation of infected particles.
- Chronic Q fever can develop in rare subgroup and usually manifests as endocarditis, infection of vascular prostheses or aortic aneurysms.

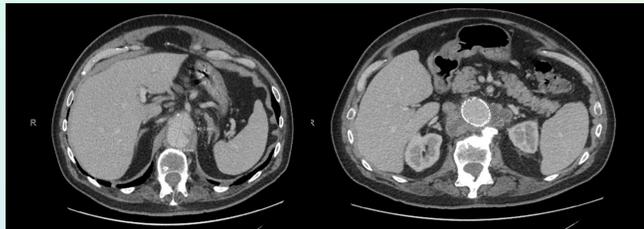


Figure 1. This CT scan demonstrates the saccular aneurysm at the aortic hiatus measuring 5.5x4.1 cm. The patient had previously undergone stent grafting also seen in the image.

Figure 2. This image shows diffuse retroperitoneal lymphadenopathy. Highlighted in this picture is left para-aortic conglomerated nodes measuring 3.9x3.7 cm.

Case

- 64 year old male with past medical history significant for ankylosing spondylitis previously on Humira, abdominal aortic aneurysm (AAA) status post aortic endovascular repair (EVAR), and recent treatment of legionella pneumoniae one week prior to admission presented with fatigue and low grade fevers.
- CT showed progression of retroperitoneal lymphadenopathy and aneurysmal degeneration of pararenal aorta suggestive of aortitis.
- He underwent CT-guided biopsy of lymph node. Routine bacterial, fungal and AFB cultures of aspirated fluid were negative. Pathology was notable for multiple necrotizing granulomas.
- Serological workup was consistent with chronic Q fever with elevated anti-phase I IgG ≥ 800 (1: 131072). Inflammatory markers were also markedly elevated.
- Patient is believed to have contracted disease from farm animals while touring a cheese factory in rural Turkey.
- Vascular surgery performed open AAA repair with EVAR explant with new graft placement. Graft and lymph node specimen from procedure were positive for *Coxiella Burnetii* with PCR testing.
- Pt is continuing to improve on regimen of doxycycline and hydroxychloroquine.
- Serologies and inflammatory markers are continuing to trend down and recent indium white blood cell scan demonstrated no additional sites of infection and stable aortic graft.

Discussion

- Chronic Q Fever can develop in 1-5% of infectious cases depending on immunocompetence of the host and virility of the infecting organism.
- Diseased vascular tissue is susceptible to chronic Q infection often presenting as endocarditis or less commonly as infected vascular grafts or aortic aneurysms.
- Although recent development in diagnostic testing have improved detection, it is imperative practitioners include Q fever in the differential for patients with pre-existing cardiac or vascular disease presenting with new complications.

REFERENCES

- de Worm S, Giot JB, Courtoy C, Gillet E, Amrane S, Huynen P, Van Esbroeck M, Prudent E, Lepidi H, Million M, Moutschen M, Raoult D. A case of giant cell arteritis associated with culture-proven *Coxiella burnetii* aortitis. *Int J Infect Dis.* 2018 Apr;69:50-54. doi: 10.1016/j.ijid.2018.01.028. Epub 2018 Mar 2. PMID: 29408476.
- Fournier PE, Marrie TJ, Raoult D. Diagnosis of Q fever. *J Clin Microbiol.* 1998;36(7):1823-1834. doi:10.1128/JCM.36.7.1823-1834.1998
- Ikediobi UT, Streit J. Chronic Q fever causing aortitis. *Am J Med.* 2013 Jul;126(7):e9-10. doi: 10.1016/j.amjmed.2013.02.004. Epub 2013 May 16. PMID: 23684061.