**Title**

Infectious Aortitis Mimicking Large Vessel Vasculitis: A Diagnostic and Therapeutic Challenge

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**ABSTRACT** (235 words)

**Background**: Aortitis, or inflammation of the aortic wall, is a relatively rare but potentially life-threatening condition. It can result from infectious or non-infectious etiologies, such as large vessel vasculitides like giant cell arteritis. Distinguishing between these causes is crucial, as management differs significantly.

**Objective**: To present a challenging case that highlights the diagnostic and therapeutic nuances in aortitis.

**Case Description**: A 58-year-old man presented with 2-3 weeks of abdominal and back pain. Initial workup revealed elevated inflammatory markers and a crescentic intramural aortic thrombus on CT scan, raising suspicion for large vessel vasculitis. However, blood cultures were negative, and symptoms temporarily improved with antibiotics. Subsequent autoimmune serologies showed a positive ANA but were otherwise unremarkable. Repeat imaging demonstrated progression with saccular aortic aneurysms. Cultures remained negative despite broad antimicrobial coverage.

Given radiographic evidence of infectious aortitis, the patient underwent endovascular aortic aneurysm repair with a physician-modified fenestrated endograft. He was discharged on 12 weeks of intravenous and oral antibiotic therapy. Postoperative imaging confirmed an intact endograft without complications.

**Conclusion**: This case illustrates the difficulties in distinguishing infectious from non-infectious aortitis based on initial presentation. Several features suggested a non-infectious etiology, including negative cultures, transiently improved inflammatory markers on antibiotics, and positive ANA. However, the rapid radiographic progression ultimately supported an infectious cause. Timely surgical intervention with an endovascular approach was critical. A low threshold for advanced imaging and a multidisciplinary approach is essential in aortitis.

**BIOGRAPHY**

Sheharyar Hassan Khan is currently working as a trust grade junior doctor in University Hospitals of Derby and Burton NHS Foundation Trust. During his 4 months, rotation in the rheumatology department he has showed interest in the speciality and has worked to gather interesting cases. Apart from this case presentation, he is also involved on working on an audit project in the department.

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