

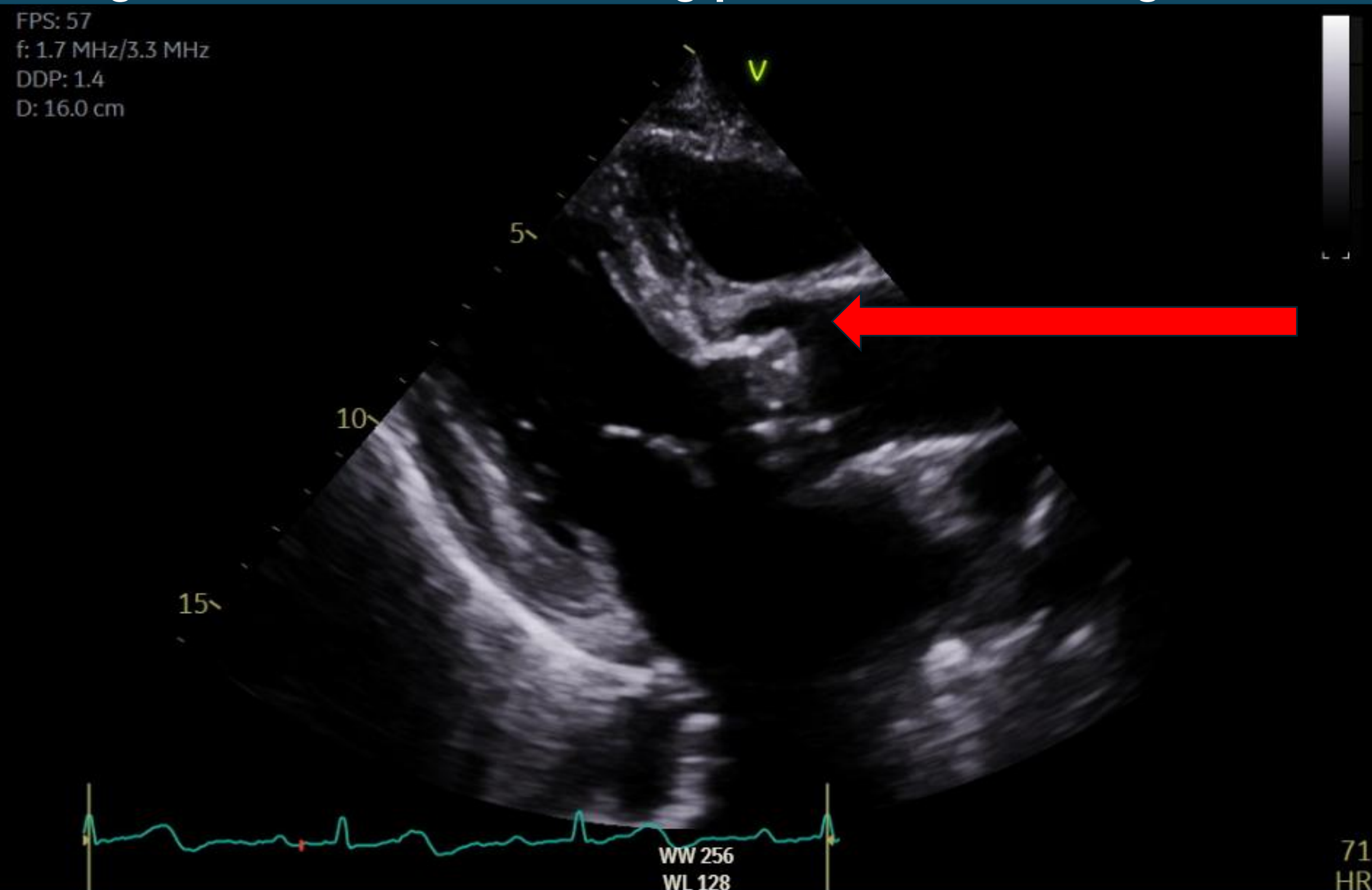
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Introduction

Q fever endocarditis is an uncommon yet severe manifestation of chronic *Coxiella burnetii* infection, predominantly affecting prosthetic valves. Its presentation is often subtle, culture-negative, and lacks typical echocardiographic findings.

Diagnosis often hinges on specific serology and PCR testing. Management is complex, especially in high-risk surgical candidates, and typically requires prolonged antibiotic therapy in combination with close multidisciplinary oversight.

Figure 1: TTE demonstrating prosthetic valve vegetation

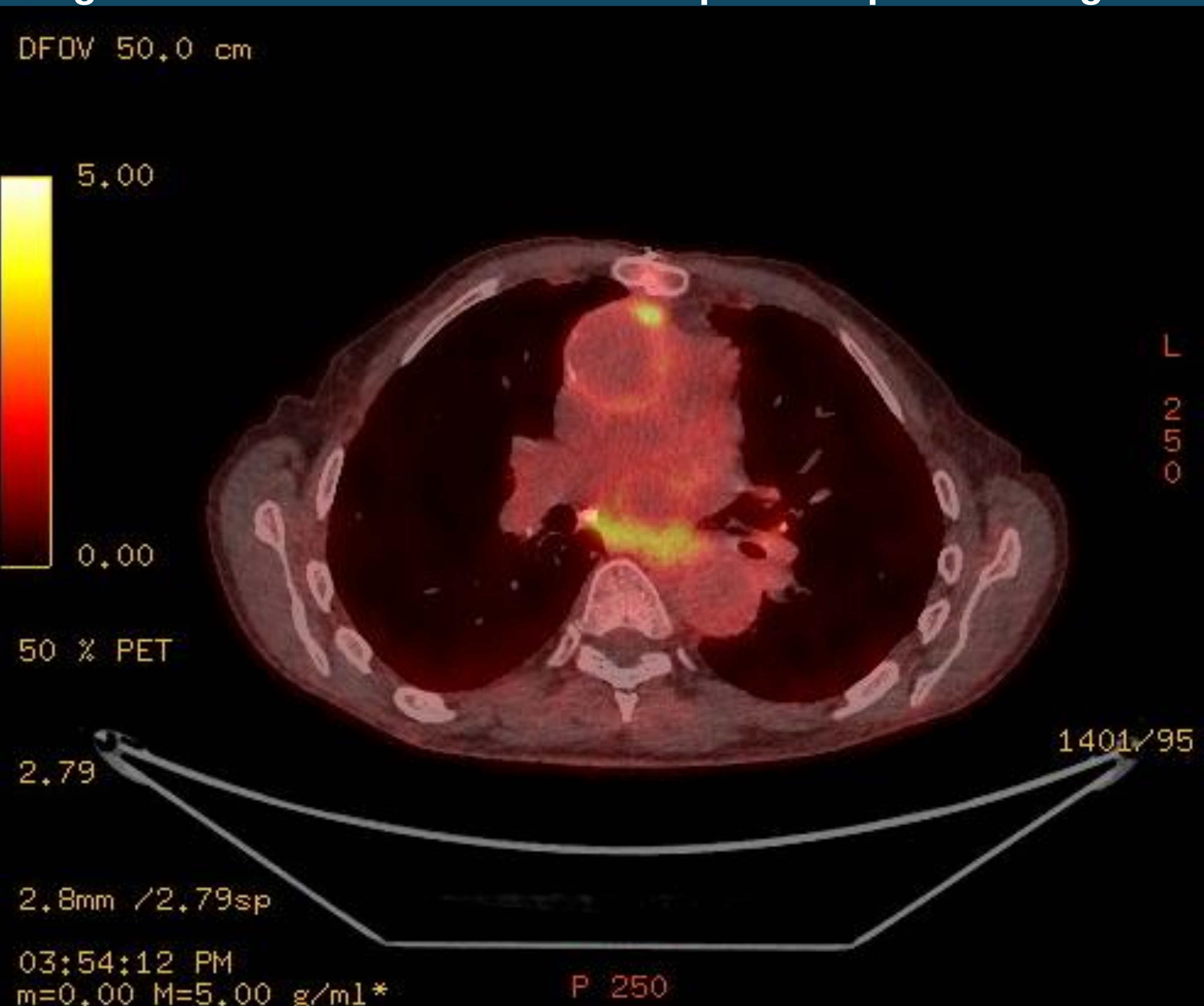


Case Description

A 69-year-old male with a history of autoimmune hepatitis, prosthetic AVR with ascending aortic graft in 2014 and pulmonary sarcoidosis with ILD, presented with progressive weight loss, fever, and pancytopenia. Following bronchoscopy investigating sarcoidosis, he became febrile and confused with subsequent neuroimaging revealing a subdural hematoma requiring surgical evacuation. Following discharge home, he re-presented several days later with further confusion, fevers and gait disturbance.

An MRI revealed stability of his known subdural haematoma, but a new occipital infarct. Concurrent abdominal imaging demonstrated splenomegaly and splenic infarction complicated by abscess formation. TTE identified aortic prosthetic valve vegetations, a probable perforation of the anterior mitral leaflet, and findings consistent with an aortic root abscess.

Figure 2: PET-CT with increased uptake of prox aorta graft



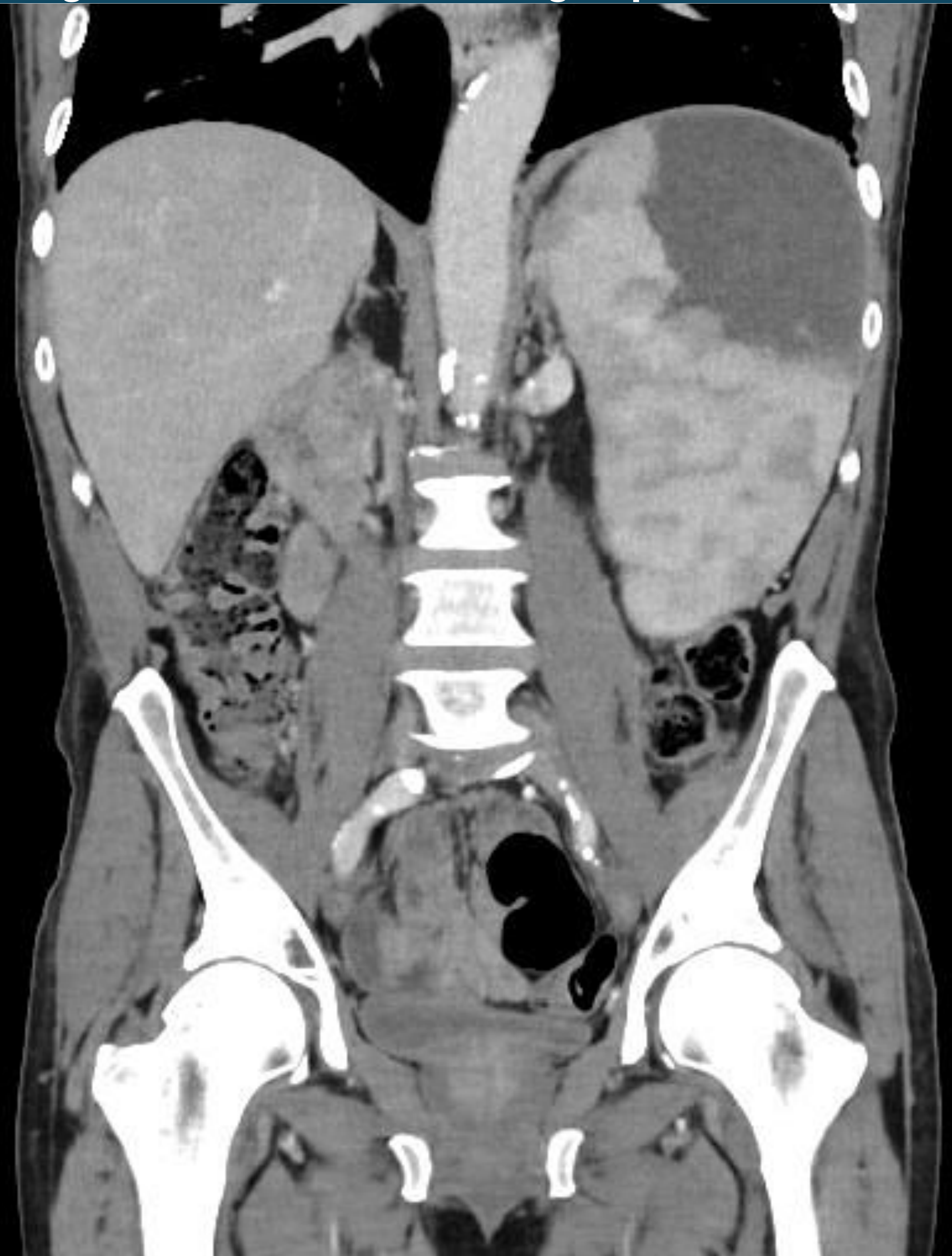
Case Continued

Multiple blood cultures (19 sets throughout admission) were negative. Extensive investigations revealed persistently positive *Coxiella burnetii* PCR and serology, confirming chronic Q fever endocarditis. The patient had no obvious exposure history, living rurally but denying farm-animal contact.

Given his high surgical risk profile, a multidisciplinary team (MDT) opted initially for conservative medical management with prolonged antibiotic therapy (doxycycline and hydroxychloroquine), monitoring closely with serial echocardiography. His admission was further complicated by a pulmonary embolism, necessitating cautious anticoagulation following further MDT discussion. Over six weeks, his clinical status improved significantly with resolution of fever, improvement in inflammatory markers, and gradual resolution of echocardiographic abnormalities, avoiding surgical intervention.

Questions were raised about the longstanding diagnoses of AIH and sarcoidosis. A prior liver biopsy (taken months earlier for presumed AIH) was reviewed. However, PCR testing retrospectively performed for Q fever was negative. He was discharged home with continued antibiotic therapy. Although outpatient PET-CT showed ongoing increased uptake in the aortic graft, the patient's condition continued to markedly improve on medical therapy. Following further MDT discussion, it was agreed to continue medical management at present.

Figure 3: CT AP shows large splenic abscess



Discussion

This case underscores the diagnostic and therapeutic complexity of Q fever endocarditis, particularly in patients with prosthetic valves and elevated surgical risk.

Effective multidisciplinary collaboration enabled careful evaluation and individualised decision-making, leading to substantial clinical improvement with medical therapy.

This highlights the importance of tailored management strategies and ongoing vigilance in such complex presentations