

# Emphysematous *Salmonella* aortitis with mycotic aneurysm

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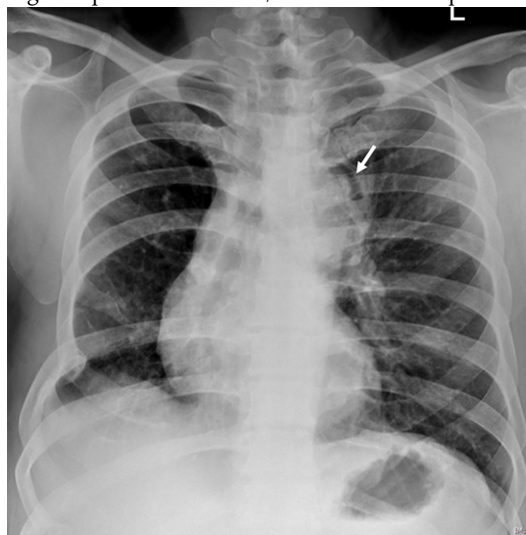
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## DESCRIPTION

A 53-year-old man with history of poorly controlled diabetes mellitus presented with left chest pain radiated to the left shoulder for 3 weeks. On examination, he had low-grade fever, tachypnoea, regular pulse rate at 90/min and blood pressure



**Figure 1** Chest radiograph reveals abnormal soft tissue density silhouette with proximal descending aorta with air-filled collection (arrow).

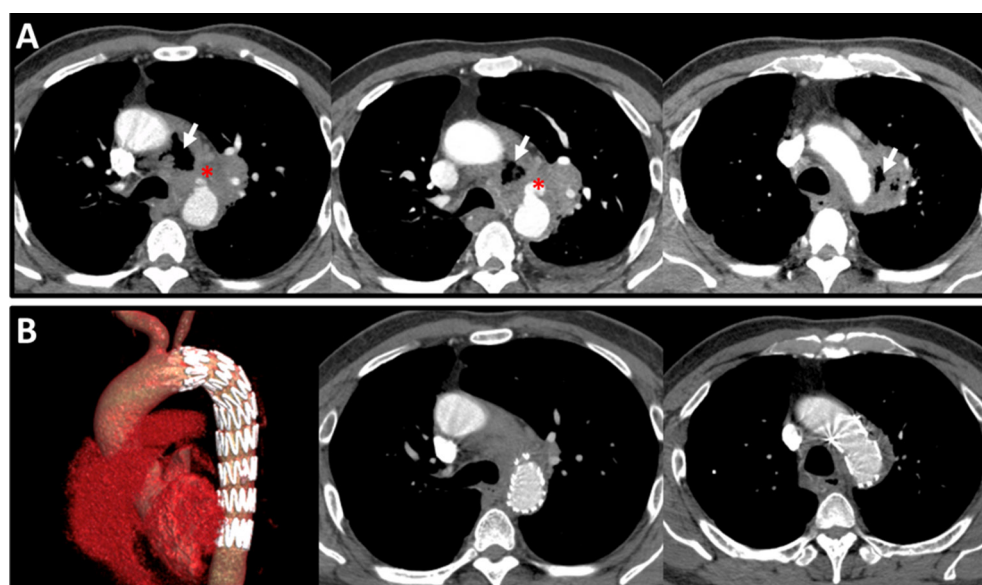
140/90 mm Hg. His cardiovascular and chest examinations were otherwise unremarkable.

Initial blood test showed leucocytosis and elevated C reactive protein level. Chest radiograph revealed abnormal soft tissue density silhouette with proximal descending aorta with air-filled collection (figure 1, arrow).

Contrast-enhanced CT of the aorta (CTA) revealed 1.3×1.5 cm outpouching lesion protruded from the anterior aspect of the proximal descending thoracic aorta (figure 2A, asterisks) with periaortic collection containing multiple air pockets (figure 2A, arrows) surrounding the aortic arch. *Salmonella* group D bacteraemia was confirmed with consecutive blood cultures. He was diagnosed with *Salmonella* aortitis complicated with mycotic aneurysm and periaortic abscess.

A high-dose intravenous ceftriaxone was started. He subsequently underwent endovascular aortic graft implantation with carotid–left subclavian bypass graft. After 6 weeks of intravenous antibiotic, the pain and fever subsided gradually and follow-up CTA showed substantial decrease in the size of periaortic abscess (figure 2B).

Non-typhoidal *Salmonella* serovars are a leading cause of Gram-negative bacterial aortitis and



**Figure 2** (A) Transverse view of contrast-enhanced CT of the aorta reveals 1.3×1.5 cm outpouching lesion protruded from the anterior aspect of proximal descending aorta (asterisks) with periaortic collection containing multiple air pockets (arrows). (B) Follow-up images after endovascular aortic graft implantation with carotid–left subclavian bypass graft show substantial decrease in size of periaortic abscess.



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mycotic aneurysm.<sup>1</sup> Periaortic abscess with air collection are either signs of impending rupture or evidence of gas-forming pathogen.<sup>2</sup> However, the diagnosis is often delayed since clinical presentations are usually non-specific. There is no consensus over appropriate treatment of complicated *Salmonella* aortitis. Effective intravenous antibiotic therapy and prompt surgical interventions are the mainstay of treatment. Standard open surgical repairs are adequate resection and debridement of the

infected segment with vascular reconstruction. Endovascular stent graft is an alternative to conventional surgical treatment; however, late aneurysm-related complications seem to be more common which warrants the sequential follow-up imaging.<sup>3</sup>

**Contributors** SM and PC drafted the manuscript and prepared the image. GS and CK discussed and reviewed the manuscript.

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### Learning points

- ▶ Non-typhoidal *Salmonella* species are a leading cause of Gram-negative bacterial aortitis and mycotic aneurysm.
- ▶ Periaortic abscess with air collection are either signs of impending rupture or evidence of gas-forming pathogen.
- ▶ Timely intravenous antibiotics and prompt surgical interventions are mainstay of treatments to prevent catastrophic complication.

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