




Intra-arterial gas, a clue for diagnosis of peri-aortic inflammation due to infection

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Abstract

We have presented a case of Salmonella-induced infective aortic aneurysm in which the presence of peri-aortic gas was a clue for diagnosis. The disease is clinically infrequent but potentially has a high mortality rate. Clinicians should consider this fatal disease from any trivial findings.

KEYWORDS

aortic aneurysm, *Salmonella*

A 70-year-old diabetic woman was admitted to our hospital with a complaint of high fever accompanying shaking chills for 3 days. The patient's body temperature was increased to 39°C, and blood analysis showed elevations of leukocytes (17 400/μL) and C-reactive protein (16.5 mg/dL). Computed tomography revealed air-density spots in the aortic wall (Figure 1A), and *Salmonella enteritidis* serotype O9 was detected by blood culture. She had no other notable symptoms including digestive symptoms and had no history of eating raw food. Under a tentative diagnosis of Salmonella-induced infective saccular aneurysm in the infrarenal abdominal aorta, the patient underwent antibiotic treatment with ampicillin/sulbactam. On day 11, the air had disappeared and the aortic wall showed a varicose deformity (Figure 1B). The patient recovered completely with 8-week antibiotic therapy without any operation.

Cases of infective aortic aneurysms account for only about 1%-3% of total cases of aortic aneurysm. However, the case fatality has been reported to be as high as 18% in 2 years.¹ *Salmonella* species, as detected in this case,

are known as a common pathogen of crucial infection.² Not only intra-aortic gas but also the presence of a penetrating aortic ulcer suggests acute aortic syndrome, which requires urgent management.³ Without treatment, mycotic aneurysms are associated with high mortality from rupture or uncontrolled sepsis. Thus, clinicians should pay attention to these findings for early diagnosis of the disease.

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None to report.

CONFLICT OF INTEREST

We have no financial relationships to disclose.

AUTHOR CONTRIBUTIONS

DO and HN: wrote the first draft and managed all of the submission process. MO, YS, and RM: supervised clinical management of the patient. HH and FO: contributed to clinical management of the patient and revised the manuscript.

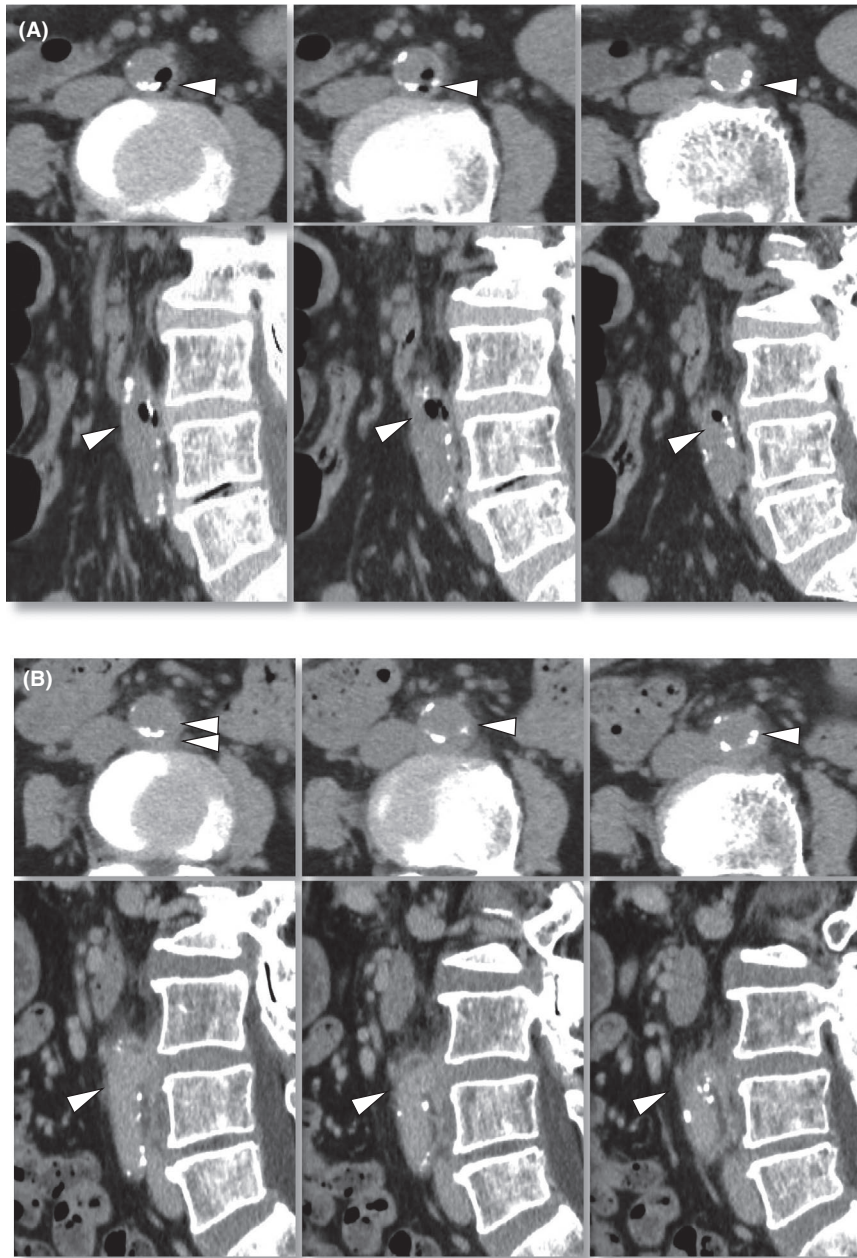


FIGURE 1 Abdominal computed tomography on admission (A) and on day 11 (B). Air-density spots were found in the aortic wall (A, arrowheads). They later disappeared, and outpouching of the arterial wall emerged at the corresponding site (B)

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