A 79-year-old woman with hypertension and diabetes mellitus was transferred from a local hospital to our emergency room because of abdominal aortic aneurysm. Lower abdominal pain had been present for 3 weeks previously. On admission, enhanced computed tomography (CT) showed abdominal aortic aneurysm with a maximum diameter of 59 mm inferior to the renal artery and periaortic massive gas (Figure 1). White blood cell counts and C-reactive peptide were elevated (17,600/μL and 23.8 mg/dL). We suspected infective abdominal aortic aneurysm and administered intravenous antibiotic.

Although we administered antibiotic intravenously for 7 days, her white blood cell counts and C-reactive peptide were still high and CT presented that periaortic gas did not reduce. Additionally, it was difficult to alleviate her abdominal pain with analgesics. Rather, the pain worsened day by day. Therefore, we performed abdominal aortic replacement with the rifampicin-bonded gelatin-sealed Dacron graft and omental pedicle grafting. On intraoperative examination, a hard mass was detected in mesentery above the abdominal aortic aneurysm. When incising retroperitoneum, a yellowish abscess was discharged from this mass. Complete debridement could be achieved. *Escherichia coli* was isolated from aortic and abscess tissue in the mesentery. Postoperatively, intravenous antibiotic had been continued for 4 weeks. After the 4-week antibiotic treatment, postoperative CT showed that gas had disappeared in the mesentery (Figure 2). She was discharged on postoperative day 37 without any complications.

Infective aortic aneurysm is a life-threatening clinical condition, which accounts for <1% of the cases of aortic aneurysm repair and is associated with a high mortality rate. Diagnosis of infective aortic aneurysm is based on imaging studies and confirmation that organisms are isolated from blood culture or tissue culture of aeurysmal wall tissue. Blood cultures are positive in 48% of cases, and tissue cultures of infected aorta are positive in 65% of cases. The most useful imaging study for diagnosing infected aortic aneurysm is CT. Findings on CT which are highly suspicious for an infected aneurysm include saccular aneurysms, paraarotic soft-tissue mass or fluid, and periaortic gas. In our case, it was of interest that periaortic massive gas recognized on CT was presented in mesentery, which was induced by *E. coli*. To our knowledge, such findings have not been reported previously.

The standard treatments of infected aortic aneurysm include antibiotic therapy, surgical interventions, and complete debridement. In management strategies for infected aortic aneurysm, it is uncertain when the surgical intervention should be performed. In 1 case series, surgical intervention was considered after the infection was controlled in patients responding well to the antibiotic treatment, whereas early surgical intervention was performed in cases of uncontrolled infection. There are no randomized trials guiding the optimal timing when surgical intervention should be performed. It is important to consider serial follow-up CT to decide when we perform surgical intervention for each case.

**Disclosures**

None.

**References**


Figure 1. Computed tomography showed aortic aneurysm with a maximum diameter of 59 mm inferior to the renal artery and peri-aortic massive gas.

Figure 2. Postoperative computed tomography showed that the gas recognized preoperatively disappeared.
Mesenteric Massive Gas Caused by an Infected Abdominal Aortic Aneurysm
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