





A Case of Axillary Arterial Aneurysm Due to Group D Non-Typhoidal Salmonella

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Dear Editor,

Nontyphoidal Salmonella serovars cause gastrointestinal infections generally but can also lead to serious extraintestinal focal infections. Diagnosis of these extraintestinal complications is often delayed due to the lack of specific clinical findings.

A 47-year-old female patient had a cadaveric kidney transplant 24 years ago. It was planned to start hemodialysis 4 months ago because of graft loss due to chronic active antibody-mediated rejection. Hemodialysis was started 1 month after arteriovenous fistula surgery and she had been receiving hemodialysis treatment 2 days a week for 3 months. She had been taking only 5 mg/day prednisolone as an immunosuppressant since the start of hemodialysis. She presented to the emergency department with complaints of fever, swelling in the left mid-axillary region, and loss of sensation and numbness in her left hand. Her complaints had continued for 3 months. She had a history of hospitalizations due to Salmonella bacteremia and urinary system infection, and her complaints did not improve despite receiving multiple intravenous antibiotics. On her physical examination, an approximately 3-4 cm painful mass was palpable in her left axillary region. Contrast-enhanced computed tomography (CT) angiography revealed thrombosed aneurysmatic dilatation starting from the proximal part of the left axillary artery and involving

the entire brachial artery. The aneurysm was measured at 50 mm at its widest point and the patent lumen was approximately 19 mm. Poor contrast filling was observed in the radial and ulnar arteries. After blood cultures were obtained, intravenous meropenem and vancomycin were initiated. Due to the aneurysm causing pain and compression symptoms, the patient was referred to cardiovascular surgery. Resection of the infected segment was performed and an axillobrachial bypass graft was inserted. Tissue cultures from the operative site were sent and group D Salmonella species were isolated. Then intravenous ciprofloxacin was initiated. After the surgery, her pain regressed and physiotherapy was started. Written informed consent was obtained from the patient who agreed to take part in the study.

Non-typhoidal Salmonella bacteria can cause more severe conditions in immunosuppressive patients. It is believed that the complex infectious presentation in our case was due to the patient receiving long-term immunosuppressive therapy following kidney transplantation. Approximately 10% of documented cases of non-typhoidal Salmonella bacteremia in adults have an endovascular involvement, and this rate increases with age.¹ Although the intima layer of arteries is resistant to infections, atherosclerotic lesions can reduce this resistance. This is one reason why aggressive treatment for Salmonella gastroenteritis is recommended in elderly adults.² The abdominal aorta is the most common site of vascular involvement, but other



arteries can also be affected. Subacute fever, abdominal and back pain, and a pulsatile mass can be typical symptoms. If suspected, the initial approach is to evaluate with contrast-enhanced CT or magnetic resonance imaging.^{3,4} In cases with positive blood culture and arterial aneurysm, it should be considered infected until proven otherwise. The presence of a negative blood culture is not sufficient to exclude mycotic aneurysms. In the literature, only 50%-70% of cases had positive blood cultures. Reddy et al⁵ showed positive gram stains in the surgical materials of 3 of 13 patients (23%) in their case series.

Salmonella species can present with vascular involvement, particularly in immunosuppressed patients. Complicated conditions such as nerve compression may arise depending on the extent of aneurysmal dilation, and in such cases, it should be kept in mind that patients may require surgical intervention in addition to medical treatment.

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