Abdominal Aortic Aneurysm Infected by *Yersinia pseudotuberculosis*

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In January 2005, a 64-year-old man who had previously been a chronic smoker and who had a history of hypercholesterolemia, hypertension, and myocardial infarction was admitted to the Centre Hospitalier et Universitaire de Nancy for persistent abdominal pain with intermittent fever. During the preceding 3 weeks he had experienced recurrent episodes of pain of the right iliac fossa, with intermittent shivers and progressive weight loss (7 kg). Therefore, an abdominal ultrasonography as well as an abdominal and thoracic computed tomography (CT) scan were performed and revealed the presence of an important abdominal aortic aneurysm with abnormal contours associated with multiple other atheromatous vascular lesions and a steatotic hepatomegaly. On admission to the hospital, the patient was apyretic, slightly disoriented, and constipated and had a blood pressure of 140/70 mm Hg. Abdominal examination was normal except for moderate hepatomegaly and ten-}

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Infected aneurysms caused by *Yersinia* are very uncommon and are principally due to *Yersinia enterocolitica*. We describe the first case of an infected aneurysm caused by *Yersinia pseudotuberculosis* in an elderly patient with a history of atherosclerotic cardiovascular disease.

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In January 2005, a 64-year-old man who had previously been a chronic smoker and who had a history of hypercholesterolemia, hypertension, and myocardial infarction was admitted to the Centre Hospitalier et Universitaire de Nancy for persistent abdominal pain with intermittent fever. During the preceding 3 weeks he had experienced recurrent episodes of pain of the right iliac fossa, with intermittent shivers and progressive weight loss (7 kg). Therefore, an abdominal ultrasonography as well as an abdominal and thoracic computed tomography (CT) scan were performed and revealed the presence of an important abdominal aortic aneurysm with abnormal contours associated with multiple other atheromatous vascular lesions and a steatotic hepatomegaly. On admission to the hospital, the patient was apyretic, slightly disoriented, and constipated and had a blood pressure of 140/70 mm Hg. Abdominal examination was normal except for moderate hepatomegaly and tenderness of the right iliac fossa. Laboratory studies revealed a white blood cell count of 10,300 cells/mm³ (62% polymorphonuclear leukocytes); an erythrocyte sedimentation rate of 110/113 mm; a C-reactive protein level of 157 mg/liter; and elevated aspartate aminotransferase (112 IU/liter), alanine aminotransferase (102 IU/liter), and gamma-glutamyltransferase (653 IU/liter) levels. An abdominal CT scan showed the presence of a falsed infrarenal abdominal aortic aneurysm. Surgery was performed on the same day. An aneurysm measuring approximately 8 cm in diameter that had ruptured into the retroperitoneal space was resected, and aortic tissue samples were sent for bacteriological analysis. Several enlarged adjacent lymph nodes were discovered and sent for histological analysis. After debridement of all surrounding inflammatory tissues, an aortoaoart bypass graft was accomplished by using a Dacron straight graft. Histological examination of the lymph nodes showed a granulomatous and slightly necrotizing lymphadenitis with microabscesses. No bacteria were observed in any of the Gram-stained preparations of the aorta examined. After 24 h of incubation, chocolate agar and brain heart infusion broth yielded the growth of a gram-negative bacillus that was identified as *Yersinia pseudotuberculosis* by using the API 20E system and the Vitek 2 GNI card/4.01 software version (bio-

![FIG. 1. Phagocyte-associated *Y. pseudotuberculosis*. Immunohistochemical staining was performed with a specific antibody for *Y. pseudotuberculosis* type I. Stained bacteria appear reddish (Envision System HRP (DakoCytomation) and the organism was revealed with 3-amino-9-ethylcarbazole. The slides were counterstained with hemalum (14). Antibiotic susceptibility was determined by the disk diffusion method, as recommended by the Comité de l’Antibiogramme de la Société Française de Microbiologie (3). The organism was found to be susceptible to β-lactams, aminoglycosides, fluoroquinolones, rifampin, fosfomycin, and minocycline and resistant to colistin. The patient was given ceftriaxone (1 g once a day) and ciprofloxacin (0.2 g three times a day) intravenously. The outcome was favorable.](http://jcm.asm.org/p/3457-3458/JCM-044-09-10638.html)
and the patient was discharged in good health 17 days later. Subcutaneous ceftriaxone (1 g once a day) and oral ofloxacin (0.2 g twice a day) were then given for an additional 10 days.

**Discussion.** Bacteria commonly involved in infections of atherosclerotic aneurysms include *Staphylococcus aureus; Streptococcus pneumoniae*; nonhemolytic streptococci; *Salmonella* spp.; and other gram-negative bacteria, such as *Escherichia coli, Campylobacter* spp., *Pseudomonas* spp., and *Bacteroides* spp. (7, 8). Vascular infections involving *Yersinia* spp. are very uncommon. In humans, only a few cases of arterial aneurysm infections, vascular graft infections after aneurysm repair, or endocarditis have been reported to have been caused by *Y. enterocolitica* (4–6, 11, 13, 15, 16, 18, 19–21). Vascular infections involving *Y. pseudotuberculosis* have not yet been reported. It has only been suggested that *Y. pseudotuberculosis* may play a role in the pathogenesis of Kawasaki disease (2, 11), but this still remains uncertain.

Septic embolization secondary to bacterial endocarditis or infection from a contiguous site may be involved in the pathogenesis of aneurysm infection. However, most infected aneurysms result from hematogenous colonization of structurally altered arteries during bacteremia. Our patient had an existing abdominal aortic aneurysm that was most likely infected secondarily by *Y. pseudotuberculosis* following the pseudoappendicitis episode that he had experienced 3 weeks earlier, although this was not documented, since cultures of stool and blood specimens had not been performed at that time. Endocarditis was ruled out by echocardiography; however, it remains unclear whether the aneurysm became infected by hematogenous seeding or by contiguous extension from infected lymph nodes.

*Y. pseudotuberculosis* is found in numerous wild and domestic animals and may also survive in soil and water (1). Infections caused by this organism in humans are mainly acquired through the gastrointestinal tract as a result of the consumption of contaminated food, water, or even milk (1, 17). Our patient used to drink nonpasteurized milk, which may have been contaminated food, water, or even milk (1). On further antigen relations between *Y. enterocolitica*. 1997. A case of Kawasaki disease with coronary artery aneurysms: review of the literature. J. Mal. Vasc. 11:153–156.

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**REFERENCES**


