**Campylobacter fetus**-Associated Epidural Abscess and Bacteremia

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**Campylobacter fetus** has been isolated as an infrequent cause of abscesses. We report a case of **Campylobacter fetus** epidural abscess and bacteremia in a debilitated elderly man who had a fatal outcome.

**CASE REPORT**

An 83-year-old European man presented to his general practitioner with a nonspecific febrile illness that was treated with oral fluoroquinolacin. While receiving this treatment, the man developed bilateral lower-leg erythema and lower-back pain. The erythema progressed over a period of about 10 days, and he became systemically unwell and presented to the hospital. On admission, the patient had fever, confusion, unsteadiness, painful legs, diarrhea, and fecal incontinence. He also complained of increasing dyspnea and angina and a mild productive cough lasting 2 days. This patient also had multiple other medical problems, including class III ischemic heart disease, congestive heart failure, a history of perforated duodenal ulcer, malignant melanoma of the forehead, mild Parkinson’s disease, and chronic obstructive pulmonary disease, and he had previously undergone surgery for coronary bypass and aortic aneurysm repair.

On admission, the patient was afebrile (36.4°C), with a blood pressure of 82/31 mm Hg, a heart rate of 86 beats/min, a respiratory rate of 28 breaths per minute, a peripheral blood oxygen saturation of 90% on air, and a blood glucose concentration of 13.4 mmol per liter. Clinical examination revealed bilateral lower-leg erythema and lower-back pain. The erythema progressed over a period of about 10 days, and he became systemically unwell and presented to the hospital. On admission, the patient had fever, confusion, unsteadiness, painful legs, diarrhea, and fecal incontinence. He also complained of increasing dyspnea and angina and a mild productive cough lasting 2 days. This patient also had multiple other medical problems, including class III ischemic heart disease, congestive heart failure, a history of perforated duodenal ulcer, malignant melanoma of the forehead, mild Parkinson’s disease, and chronic obstructive pulmonary disease, and he had previously undergone surgery for coronary bypass and aortic aneurysm repair.

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The provisional diagnoses made at the time of the patient’s examination were bilateral leg cellulitis, concurrent left ventricular failure, probable chest infection, and dehydration. He was treated with intravenous fluoroquinolacin (2 g every 6 h) and subcutaneous enoxaparin, with clinical improvement of the L2-to-L4 region and developed decreased knee re-

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sensitive to erythromycin, gentamicin, ciprofloxacin, ceftriaxone, clindamycin, tetracycline, and chloramphenicol. There was no obligate anaerobe isolated. The epidural abscess aspirate received 3 days later was identified similarly.

Further identification was performed by 16S rRNA sequencing (12) using a BigDye Terminator kit version 3.0 and an ABI prism 3100 genetic analyzer (Applied Biosystems). The partial sequence was then compared to 74 sequences from representative taxa in the class Epsilonbacteria (which includes the Campylobacter, Arcobacter, and Helicobacter taxa, among others), using established methods (10). The sequence was 100% similar to equivalent sequences derived from the type strains of the two Campylobacter fetus subspecies. The abilities of the strain to grow at 42°C and on MacConkey agar are characteristic traits of Campylobacter fetus subsp. fetus (11).

Campylobacter fetus subsp. fetus was originally isolated from aborted cattle and has been isolated from aborted human fetuses whose mothers were infected during the second trimester. The major reservoirs are cattle and sheep, and the organism usually causes opportunistic infection in debilitated hosts. The usual source of isolation is the bloodstream. The organism is less commonly isolated from feces. In comparison to that of Campylobacter jejuni, C. fetus subsp. fetus infection tends to cause more invasive disease and has a predilection for vascular sites. Affected patients are less likely to present with abdominal pain or diarrhea. Cases of C. fetus bacteremia have been noted to be associated with cutaneous manifestations, often described as cellulitis (1a, 1b, 4a, 12a, 12b). In many of these cases, there is a multifocal nature to the cellulitis. In comparison with the other campylobacter infections, patients with invasive C. fetus infections have a more prolonged clinical course and usually have a higher mortality.

C. fetus infection has also been associated with abscesses. According to the available literature, the organism has been isolated from cases of brain abscess (7), gluteal abscess (2), colonic abscess (5), and pulmonary abscess (13). Cases of meningitis were vulgaris, septicaemia and meningitis (16) have also been described. Other Campylobacter species that have reportedly been isolated from abscesses include Campylobacter curvus from hepatic abscesses (15), oral Campylobacter strains from breast, liver abscess, and pneumonia (4), C. jejuni from liver abscesses (15) and a perirectal abscess (6), Campylobacter upsaliensis from a breast abscess (3), and Campylobacter sputorum from an axillary abscess (9).

To our knowledge, this is the first reported case of an epidural abscess caused by C. fetus infection. It is presumed the patient’s infection had a bacteremic origin as the blood cultures were positive after admission, and it is likely that the patient’s blood was positive for some time. It is possible that this case represented a cutaneous manifestation of systemic C. fetus infection. Our patient was a debilitated, elderly, retired office worker in whom we did not find any documented exposure to farms or animals prior to his hospital presentation. The source or portal of entry of C. fetus remains clinically unclear.

C. fetus infection is uncommon, but in patients with back pain or progressive neurological deficit, particularly in the setting of multiple medical problems, immunosuppression, and cellulitis, it is worth considering this organism as a possible causative organism. Patients with C. fetus infection may not necessarily have prolonged bacteremia and may require invasive procedures to obtain appropriate specimens from metastatic deposits to establish a microbiological diagnosis and direct antimicrobial treatment. Our patient demonstrated the clinical associations of C. fetus infection, and this case adds to the evidence that these infections have a high mortality.

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REFERENCES