

Campylobacter fetus-induced cellulitis in a Crohn's disease patient under anti-TNFalpha maintenance therapy

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To the Editor,

Case presentation

A 54-year-old female patient presented to the emergency department with a tender and swollen left leg, subsequent to a fall. Shortly after, she had developed fever with shivering. Her medical history included type 2 diabetes, Crohn's disease for 40 years, obesity and alcoholic liver cirrhosis. For the Crohn's disease, she was treated with azathioprine (2,5 mg/kg once daily) and anti-TNFalpha therapy (infliximab 5 mg/kg every 4 weeks, based on trough l335evels) for several years. A week before admission she suffered from nausea, vomitus and diarrhea. The patient had no recent history of travelling, nor of eating improperly cooked meat or unpasteurized milk.

Physical examination revealed inflammation with edema of the lower left leg (Figure 1 and 2). There was no visible injury or port of entry. Body temperature was 38.5°C in a non-septic patient with a WBC count of 10.300 /μL and C-reactive protein level of 85 mg/L. Empiric antibiotic therapy with clindamycin and ciprofloxacin was initiated for a clinical diagnosis of cellulitis, primarily based on an uncertainty about penicillin allergy. *Campylobacter fetus* (*C. fetus*) was soon isolated from blood cultures, whereupon antibiotic treatment was modified to amoxicillin-clavulanic acid (1 g qid, i.v.). Culture of feces showed no growth of *C. fetus*. Duplex sonography and MRI-scan of the left leg showed no peripheral vascular disease nor deep venous thrombosis.

Given the gravity of the infection and remission of the Crohn's disease for several years, the anti-TNFalpha therapy and azathioprine were discontinued at admission. After two weeks of intravenous antibiotics, the patient was discharged with oral antibiotic treatment. Strict clinical and biochemical follow-up of inflammatory markers and calprotectin levels. Because of slow clinical improvement, antibiotic treatment was given for over two months in total. More than three months after admission, there were no arguments for residual infectious activity and only the azathioprine was restarted. At present, the anti-TNFalpha therapy has not yet been restarted because of the patient's comorbidities and our patient stays under close follow-up.



Figure 1 and 2. — Clinical presentation of cellulitis of the lower left leg and foot, due to *C. fetus* bacteremia.

Discussion

In only a small percentage (0,15%) intestinal *Campylobacter* infections lead to bacteremia, of which *C. fetus* is the most common species identified (19-53%). (1-5) *C. fetus* is an opportunistic human pathogen therefore bacteremia mainly occurs in immunodeficiency, advanced

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age, alcoholism or after recent gastrointestinal surgery. (1-5) Our patient was immunocompromised, with a medical history of Crohn's disease under azathioprine and anti-TNFalpha maintenance therapy, type 2 diabetes mellitus and liver cirrhosis. The clinical presentation of a *C. fetus* infection is generally characterized by a wide variety of atypical symptoms such as skin infections, as was the case in our patient. It is less frequently associated with digestive symptoms and is rarely isolated by stool culture. This often causes a delay in diagnosis, which explains the high mortality rate (14-25%). Therefore, bacteremia with *Campylobacter* species requires a prolonged antibiotic treatment, but the duration of therapy is not well defined in literature. (1-5) Carbapenem antibiotics and amoxicillin-clavulanic acid are the preferential agents for empiric treatment of *Campylobacter* bacteremia and invasive infections, hence the growing resistance to quinolones and macrolides. Treatment should always be adapted to the antibiotic sensitivity of (blood) cultures. (1-3) In Crohn's disease, maintenance therapy should be reduced or better discontinued when opportunistic infections occur (7). In our case, the azathioprine and anti-TNFalpha therapy were ceased at admission. The duration of discontinuation remains unclear and should be evaluated case-to-case.

Conclusion

This case illustrates that clinicians should always be aware of infection with *C. fetus* among debilitated hosts with gastrointestinal symptoms as well as among immunocompromised patients presenting with fever and cellulitis or other focal symptoms, even without signs of digestive tract infection.

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