Pleural Empyema Due to Clostridium difficile and Clostridium cadaveris

Pleuropulmonary infections with clostridial species, usually Clostridium perfringens, have been reported occasionally [1]. We describe a patient with a bronchogenic cyst that developed pleuropulmonary empyema due to Clostridium difficile and Clostridium cadaveris after surgical removal of the cyst.

A 33-year-old male pig farmer had had a bronchogenic cyst in the upper lobe of the left lung for ~8 years. Because the cyst was enlarging, segmental resection was performed on 31 January 1996. On the sixth postoperative day, the patient developed fever with leukocytosis (leukocyte count, 17,700 cells/mm³). A chest radiograph revealed pleural effusion on the left side. Foul-smelling fluid was obtained via transthoracic puncture on 11 February.

Culture of the pleural fluid yielded only C. cadaveris; the isolate produced cytotoxin B. The Etest (AB BIODISK, Solna, Sweden) showed that both organisms were susceptible to amoxicillin/clavulanate and metronidazole. Therapy with iv amoxicillin/clavulanate (1,000/200 mg t.i.d.) was started on 11 February. Therapy with iv amoxicillin/clavulanate was continued until 26 May (during the last 2 weeks, amoxicillin/clavulanate was administered orally at a dosage of 500/125 mg t.i.d.). A CT scan showed no signs of abscesses. The leukocyte count was 8,200/mm³. No β-lactamase production was detected in the C. cadaveris isolate.

The patient was discharged from the hospital in good clinical condition with a prescription for oral amoxicillin (500 mg q.i.d.). As of this writing (3 months later), he is clinically stable.

Few cases of pleural infection with C. difficile have been reported [2, 3]. C. cadaveris is not known to produce a toxin and is considered to be of little pathogenic importance, with destruction of a whole lung despite adequate antimicrobial therapy, is remarkable.

We believe that the C. cadaveris isolate persisted after 4 Weeks of therapy because of its capacity to sporulate. The persistence of C. cadaveris despite adequate therapy was not described in the three previously mentioned case reports [5, 6]; those patients all died of complications during hospitalization, which obscured the possible role of C. cadaveris. We conclude that the pathogenicity of C. cadaveris needs further study.

References