A Rare Cause of Peritoneal Dialysis–Related Peritonitis: *Achromobacter denitrificans*

Editor:

Achromobacter denitrificans is a gram-negative bacterium formerly known as *Alcaligenes denitrificans* and only recently reclassified as *Achromobacter* (1). An aerobic,

non-fermenting, oxidase- and catalase-positive motile bacterium, *A. denitrificans* has been isolated in soil and water (2). This bacterium may be part of the normal flora of the ear and the gastrointestinal and respiratory tracts in some people. *A. denitrificans* rarely causes infection in humans. The case of peritonitis reported here is the first observed in a patient undergoing continuous ambulatory peritoneal dialysis (CAPD).

The patient, a 60-year-old woman, had been undergoing CAPD for 6 years. She had a history of 3 peritonitis episodes, the last of which had occurred 2 years earlier. She was admitted to our clinic with complaints of abdominal pain, nausea, vomiting, and fever that had begun the preceding day.

The catheter exit site and tunnel were normal. Effluent white blood cells were 1800/mm³, with a predominance of neutrophils. No micro-organisms could be identified in a gram-stain of the effluent. The patient was diagnosed with CAPD-related peritonitis and started empirically on vancomycin and ciprofloxacin after culture samples had been obtained. Growth of *A. denitrificans* was observed in the effluent culture. No micro-organism growth was observed in the blood cultures. The *A. denitrificans* was sensitive to ciprofloxacin. Vancomycin was discontinued. Effluent white blood cells rapidly declined to below 100/mm³, and the patient's complaints fully resolved.

Infections with *A. denitrificans* are observed only rarely. In infected patients, *A. denitrificans* has been isolated in blood, peritoneal and pleural fluid, urine, and sweat. The risk factors identified for *Achromobacter* infections include immune insufficiency, HIV infection, malignancy, cystic fibrosis, and hospitalization (2,3). None of those risk factors was present in our patient. *A. denitrificans* can cause endocarditis in natural and prosthesis valves, pneumonia, meningitis, peritonitis, conjunctivitis, osteomyelitis, and intra-abdominal abscesses (1,4,5). To our knowledge, peritonitis caused by *Al. denitrificans* subspecies *xylosoxidans* was previously reported only in a case published by Morrison and Boyce in 1986 (6). However, their description of *Al. denitrificans* was the same as the description given by Coenye *et al.* for *Al. xylosoxidans* subspecies *denitrificans* (7). Exit-site infections in CAPD caused by *A. denitrificans* and *A. xylosoxidans* have been reported. However, only *A. xylosoxidans* has been reported as a cause of CAPD-associated peritonitis (8,9).

To summarize, *A. denitrificans* is a rare cause of CAPD peritonitis. However, it can be successfully treated with antibiotic therapy and without removal of the peritoneal catheter.

DISCLOSURES

The authors have no financial conflicts of interest to declare.

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