

CORRESPONDENCE

***Lactococcus garvieae* Peritoneal Dialysis Peritonitis**

Editor:

Lactococcus garvieae, a gram-positive coccus previously assigned to the *Streptococcus* genus, is a zoonotic pathogen of importance both for humans and aquaculture (1). It causes infective endocarditis (2), liver abscesses (3), spondylitis (4), and osteomyelitis (5). To our knowledge, no case of peritoneal dialysis (PD) peritonitis has been caused by *L. garvieae*. Here, we describe a PD patient who developed peritonitis from *L. garvieae* infection.

A 38-year-old man with immunoglobulin A nephropathy had daily proteinuria up to 3 g for more than 15 years. He was put on prednisolone, with a fluctuating response, and his renal function progressively declined despite several courses of methylprednisolone and cyclophosphamide pulse therapy. Peritoneal dialysis was initiated starting in June 2011. An episode of drainage failure caused by omental wrapping of the Tenckhoff catheter occurred 1 month later, and a partial omentectomy was performed.

An episode of abrupt abdominal pain after jogging occurred 7 months after PD initiation. The abdominal pain was sharp in nature and accompanied by watery diarrhea without fever. The diarrhea subsided, but turbid effluent occurred the next day.

Abdominal examination revealed diffuse tenderness with rebounding. The catheter exit site was normal. Hemogram disclosed white blood cells 12 960/ μ L and hemoglobin 8.2 g/dL. Effluent analysis yielded a leukocyte count of 1600/ μ L, with 70% neutrophils. Empiric intraperitoneal (IP) ceftazidime and cefazolin were administered. The effluent gradually turned clearer, and abdominal pain improved 1 day later. Effluent culture yielded *L. garvieae*, and the IP ceftazidime was discontinued. The patient completed 14 days of IP cefazolin without recurrence.

Lactococcus species was originally described in 1985, known then as lactic streptococci, because the organisms were isolated mostly from dairy products and cattle. In the *Lactococcus* genus, *L. lactis* subspecies *lactis*, *L. lactis* subspecies *cremoris*, and *L. garvieae*

are the most important species, with clinical implications for veterinary medicine and, occasionally, human infections. Among those species, *L. garvieae* is a major pathogen in aquaculture, resulting in septicemia in rainbow trout, grey mullet, and freshwater prawns (6). The same organism also causes mastitis in cows (7). However, *L. garvieae* is of low virulence for humans, with infections being reported mostly in immunocompromised patients (2,3).

The source of *L. garvieae* can be raw cow's milk, cheese, and meat products, and especially fish products (1,2,8). An epidemiology study suggested that consumption of raw seafood during the summer months by patients with underlying gastrointestinal diseases may be a potential predisposing factor for *L. garvieae* infection (1). The summer period corresponds with the higher water temperatures that are most suitable for breeding prawns, trout, and mullets, which carry the highest risk of lactococcosis (1). In addition, *Lactococcus* are not typical members of the normal flora of human gastrointestinal tract, although isolation from the alimentary tract has been reported (9).

The port of entry for *L. garvieae* is suggested to be an anatomic or physiologic defect of the gastrointestinal tract (such as a gastric ulcer, diverticulum, or prior surgery) or use of acid-suppressing medications, but often, no source of entry is identified (1,2,4,5). The infected sites are often damaged organs or tissues, including valves (native or prosthetic) and degenerated spine (2,4). Our patient acquired such an infection during the winter, and he did not recall consuming raw seafood before the peritonitis episode. However, he reported intermittent consumption of milk products and cheese. He did not have any evidence of gastrointestinal diseases and was not taking antacids, but he did experience episodes of diarrhea 1 day before the dialysis effluent became turbid. We suspect that our patient might have acquired the *L. garvieae* infection through the ingestion of contaminated food or pre-existing bowel colonization, with translocation of the bacteria through a gastrointestinal mucosal defect subsequent to the vomiting and diarrhea. In this scenario, the peritoneal cavity in PD patients may also serve as a "damaged tissue" that cultivates *L. garvieae* infection.

Treatment of *L. garvieae* infection is similar to that for a streptococcal infection, but most cases require prolonged treatment (4). Regimens including ampicillin or amoxicillin, ceftriaxone, netilmicin, and vancomycin or teicoplanin have been successfully administered (2–5). However, it is also important to differentiate *L. garvieae* infection from other streptococcal infections, because the former organisms are generally resistant to clindamycin, but the latter are not (10). Our patient received IP cefazolin, and the response was also acceptable.

DISCLOSURES

The authors have no financial conflicts of interest to declare.

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