

Case report

A Rare Case of Peritonitis: Streptococcus Salivarius

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Abstract

Streptococcus salivarius is a Gram-positive bacteria that may cause infections like endocarditis and meningitis. However, it has not been reported as a causative agent of peritonitis in peritoneal dialysis patients. In this paper we present a rare case of peritonitis with *Streptococcus salivarius* admitted to our Clinic with abdominal pain, who had been on peritoneal dialysis treatment for 19 months. *Streptococcus salivarius* was cultured from the effluent, sensitive to ampicillin and penicillin G. Patient was discharged completely cured. Peritonitis is the most important clinical issue that occurs in patients treated with peritoneal dialysis, and every effort should be invested to determine the causative agent while even rare bacteria as *Streptococcus salivarius* may be found.

Keywords: peritonitis, peritoneal dialysis, streptococcus salivarius

Introduction

Peritonitis is the most important complication of peritoneal dialysis (PD). The most common organisms isolated are *Staphylococcus aureus* and coagulase negative staphylococci [1]. *Streptococcus salivarius* is a Gram-positive, facultative anaerobic bacteria that colonizes gastrointestinal and genitourinary tracts, oral cavity and paranasal sinuses [2]. Although it is regarded to have low virulence, *Streptococcus salivarius* may cause life-threatening infections like endocarditis and meningitis [3], and it has not been reported as a causative agent of peritonitis in PD patients. Herein, we present a case of peritonitis with *Streptococcus salivarius* in a PD patient.

Case report

A sixty-year-old male patient treated with PD for 19 months was admitted to our Clinic due to abdominal pain and cloudy effluent. His physical examination revealed

decreased skin turgor, paleness of the conjunctiva and skin, metallic valvular sound, a mild systolic murmur at the apex and diffuse abdominal tenderness. He had increased C-reactive levels without leukocytosis. Cell count of the peritoneal effluent revealed 9800 leukocytes/mm³ (90% polymorphonuclear leukocytes). After culturing the effluent, empiric treatment with intraperitoneal cefazolin and vancomycin plus oral ciprofloxacin was started. Leukocyte count of the effluent decreased to 400/mm³ on the second day and 20/mm³ on the fifth day. *Streptococcus salivarius* was cultured from the effluent, and antibiotic sensitivity test showed that ampicillin and penicillin G were effective. The treatment was continued for a total of 14 days. He was discharged completely cured.

Discussion

Streptococci are Gram-positive bacteria including a collection of species that live in many body organs and range from benign to those causing life-threatening infections. *Streptococcus salivarius* is spherical, Gram-positive bacteria and principal commensal bacterium of the oral cavity, and hence colonizes the mouth and upper respiratory tract [2]. The bacteria is considered an opportunistic pathogen; it rarely enters the blood stream during brushing the teeth or dental work. It is found in cases of septicemia, endocarditis and meningitis in patients with neutropenia [3].

Peritonitis is the most important clinical problem that occurs in patients with end-stage renal disease treated by peritoneal dialysis (PD). The incidence of peritonitis varies from center to center [1]. Many types of microorganisms may cause PD peritonitis. The most frequent pathogens are *Staphylococcus aureus*, Gram-positive organisms and *S. Epidermidis* [4]. A large review of 3366 patients showed that almost 50% of infections were due to Gram-positive organisms and 15% to Gram-negative organisms, 20% were culture negative (sterile peritonitis), only 4% were polymicrobial infections while fungal infection occurred in less than 2% of cases [5]. The most frequent pathogens are Gram-positive organisms, *Staphylococcus*

aureus and *S. epidermidis*. In the literature there are also case reports about peritonitis due to group B *Streptococcus* [6]. Streptococci which are oral colonizers like *Streptococcus salivarius* are unusual cause of peritonitis in CAPD. This emphasizes the need of appropriate oral hygiene and antimicrobial prophylaxis during dental procedures.

To the best of our knowledge, this is the first reported case of peritonitis due to *Streptococcus salivarius*. As this organism colonizes plaques in the oral cavity, patients should take good oral hygiene especially after tooth extraction.

Conflict of interest statement. None declared.

References

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