

Peritonite por *Salmonella* em paciente em diálise peritoneal automática

Salmonella peritonitis in a patient on automated peritoneal dialysis

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RESUMO

Descreve-se a evolução clínica de um caso de peritonite por *Salmonella sp.* após episódio de salmonelose intestinal, e uma breve revisão da literatura também foi realizada.

Palavras-chave: Peritonite. Diálise Peritoneal. Infecções por *Salmonella*.

CASE REPORT

A 63-year-old male with chronic kidney disease (CKD) on automated peritoneal dialysis (APD) for three years due to diabetic nephropathy, with no previous history of peritonitis and dry abdomen during the day. The patient presented with diffuse abdominal pain, inflammatory diarrhea, and vomits, which had initiated three days earlier. Physical examination revealed a discrete lower limb edema, absence of fever, and no signs of peritonitis. This patient does not use erythropoietin, he presented frequent hypoglycemic episodes and has more than 1,000 mL of residual diuresis.

The patient was started on intravenous ciprofloxacin for intestinal infection. The routine blood tests, effluent culture, blood culture, and abdominal ultrasound were all normal. Faecal culture was positive for *Salmonella sp.* and intestinal salmonellosis was diagnosed. After three days, he presented high fever and worsening of abdominal pain, with clinically evident peritonitis. A new effluent culture was positive for *Salmonella sp.*, and the former antibiotic was changed to intravenous amikacin.

After 14 days the starting use of Amikacin, the patient was discharged, but a week later the effluent became once again purulent. He was readmitted to change the Tenckhoff catheter and started

ABSTRACT

We describe the clinical course of a case of peritonitis caused by *Salmonella sp.* after an episode of intestinal salmonellosis, and a brief review of the literature is also done.

Keywords: Peritonitis. Peritoneal Dialysis. *Salmonella* Infections.

a new course of four-week intravenous amikacin, leading to heal. A summary of the laboratorial exams are in Table 1.

DISCUSSION AND REVIEW OF LITERATURE

Salmonella is a gender of Gram-negative *Enterobacteriaceae* that does not belong to the normal flora of the intestine. Its isolation in feces could mean either unapparent infection, disease, or carrier state. Nearly all cases are caused by food poisoning.¹ The serotypes *S. typhi* and *S. paratyphi* are clinically relevant, capable of causing typhoid fever and paratyphoid fever, respectively; *S. typhimurium* can cause only gastroenteritis, and *S. enteritidis*, *S. dublin* and *S. choleraesuis* can also lead to bacteremia.²

In our environment, *Salmonella* is rather frequent. Up to 43.1% of the cases of bacterial diarrhea in São Paulo, between 1999 and 2003, were caused by this agent.³ In the Southeast Brazil, the most common serotype is *S. enteritidis* (67.4%), followed by *S. typhimurium*.⁴

Spontaneous *Salmonella* peritonitis can occur in cirrhotic patients with ascites. Other described sites of infection include the pericardium, thyroid, meninges, and bone marrow, mainly due to a deficiency in cellular immunity. In fact, *Salmonella* persistent bacteremia is a defining criterion of AIDS.⁵

TABLE 1 LABORATORIAL DATE		7 days before hospitalization	First day in the hospital	3 days after	Day of the readmission
Date					
Creatinine (mg/dL)		3,8	4,5	4.8	4.2
Urea (mg/dL)		78	112	124	98
Hemoglobin (g/L)		12.5	11.8	11	10.2
Hematocrit (%)		36.2	37	32	33
Leukocytes		4200	5100	4100	5100
Glucose (mg/dL)		78	62	128	162
Cytometry/neutrophil (%)		--	42 / --	1200 / 80	820 / 88

Among peritoneal dialysis patients, *Salmonella* peritonitis is extremely rare, nearly 0.15% of all the causes.⁶ The serotypes described as agents were to date *S. enteritidis*, *S. typhimurium*, and *S. hadar*. Besides manual contamination of the catheter, two mechanisms of translocation could be implicated as the source of peritonitis: either by direct shift to the blood within CD18+ phagocytes, or via invasion of intestinal M cells, later progressing to the lymphoid tissue and regional lymph nodes.⁷

After reviewing the literature, we found three other reported cases of *Salmonella* peritonitis in peritoneal dialysis patients, but none on APD. Commonly, they all had watery diarrhea, high fever, some degree of immunosuppression, due to a systemic disease or to CKD itself, and presented recurrence of the infection after the initial treatment, because of the difficulty in eliminating the pathogen from the host.⁸

Hence, we conclude that the initial treatment should include at least a quinolone or a third generation cephalosporin or amikacin, and it should last more than four weeks. Then, it should follow peritoneal effluent cultures as fitted.^{9,10} Withdrawal of the Tenckoff catheter is not routinely necessary for the treatment of uncomplicated bacterial peritonitis.¹⁰⁻¹² Due to the small number of described cases, there is no consensus regarding Tenckoff catheter exchange in cases of recurrent *Salmonella* peritonitis in peritoneal dialysis. However, we believe that this procedure is to be executed in this particular circumstance. As the need for serial faecal cultures for assessing the condition of carrier, there are few cases in the literature and they are only recommended for patients using immunosuppressive drugs.¹³

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