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**Caso Clínico / Clinical Case**

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**BACTERIAL PERITONITIS FOLLOWING ENDOSCOPIC TREATMENT OF CECAL VASCULAR ECTASIA IN A PATIENT ON AMBULATORY PERITONEAL DIALYSIS**P. PINTO MARQUES<sup>1</sup>, D. CARVALHO<sup>2</sup>**Resumo**

A peritonite mantém-se uma complicação grave em doentes submetidos a diálise peritoneal, sendo uma causa importante de internamento, mortalidade e perda da viabilidade do catéter, implicando o recurso à hemodiálise. A colonoscopia poderá ser um factor de risco, presumivelmente por translocação bacteriana. As actuais recomendações sobre antibioterapia profiláctica não especificam a abordagem neste subgrupo de doentes.

**Caso clínico:** Um doente de 57 anos sob diálise peritoneal desenvolveu um quadro de peritonite bacteriana após terapêutica endoscópica de uma angiodisplasia no cego com argon plasma e injeção de adrenalina. Não se observou evidência imagiológica de perfuração. Foi instituída terapêutica antibiótica intra-peritoneal com sucesso.

**Conclusão:** Este caso sublinha a necessidade de remoção do líquido de diálise peritoneal associado à instituição prévia de antibioterapia profiláctica de largo espectro, antes da realização de terapêutica endoscópica no decurso de uma colonoscopia.

**Summary**

**Background:** Peritonitis remains a serious problem for patients on peritoneal dialysis, being a leading cause to admissions, mortality and catheter loss with need for hemodialysis. Patients undergoing colonoscopy are at increased risk, presumably from bacteria translocation. Current guidelines for antibiotic prophylaxis don't emphasise their need in this subset of patients.

**Case Report:** A 57-year-old man on continuous ambulatory peritoneal dialysis (CAPD) developed bacterial peritonitis following cecal vascular ectasia - endoscopic treatment with argon plasma coagulation and injection therapy. There was no imaging evidence for perforation. Successful treatment was achieved with intraperitoneal antibiotics.

**Conclusion:** The case underscores the need for emptying the peritoneal cavity of dialysate in peritoneal dialysis patients in association with large-spectrum antibiotic prophylaxis, before endoscopic treatment during colonoscopy.

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**INTRODUÇÃO**

Peritonitis remains a serious problem for patients on continuous ambulatory peritoneal dialysis (CAPD), being a leading cause to hospitalisation, mortality and catheter loss with need for hemodialysis (1). The most common causes of peritonitis are touch contamination and peritoneal catheter infections. Invasive procedures associated with transient bacteremia may infrequent cause peritonitis in peritoneal dialysis (PD) patients. Patients undergoing colonoscopy are at increase risk, presumably from bacteria translocation and/or asymptomatic microperforation. Institution-based guidelines using antibiotics before endoscopic procedures may avoid complications.

**CASE REPORT**

We report the case of a 57-year-old man with end-stage renal disease due to hypertensive nephropathy, who was maintained on continuous ambulatory peritoneal dialysis (CAPD) since 1997. The patient underwent a colonoscopy 2 months before for iron-deficiency-anaemia. A single oozing 10 mm vascular ectasia (VE) was identified in the cecal pole and endoscopic therapy was performed with adrenalin injection (1.5 cc; 1:10000 dilution). Because of iron-deficiency-anaemia recurrence the patient underwent a second colonoscopy. The instrument was easily introduced to the cecum and then to the terminal ileum. The same, albeit smaller (7 mm) VE was again identified at the cecal pole. Endoscopic

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therapy was performed with epinephrine injection (2 cc; 1:10000) and argon plasma coagulation (APC) with low power settings (20 watts; 2 L). The patient was discharged uneventful but 24 hours later he complained of chills and abdominal pain. Physical exam on admission was remarkable for generalized abdominal tenderness with no guarding. His vital signs were stable and temperature was 36.9 °C. Upright and left lateral decubitus abdominal films showed no free air. Because of cloudy dialysate fluid he was started immediately on antibiotics (AB) (intraperitoneal cefazolin and ceftazidime) and intraperitoneal heparin. Dialysate fluid analysis showed an increased number of leukocytes (2160 cels /mm<sup>3</sup>) with 90% neutrophils and 3 agents were later isolated (*Klebsiella pneumoniae*, *Escherichia coli* and *Streptococcus viridans*). The patient was discharged after 12 hours and managed with a 2-week course of AB as an outpatient. The dialysate leukocyte count returned to normal within 3 days. Presently, 1 year after the procedure the patient is still on CAPD with no evidence of iron-deficiency anaemia recurrence.

## DISCUSSION

Several case reports have been published showing a documented risk of peritonitis after colonoscopy in peritoneal dialysis patients. In all except one, it occurred after polypectomy (2,3,4,5,6,7). There are several potential reasons for this increased risk, namely the immune suppressed state in end-stage renal disease, dilution of both cellular and humoral components of the host defense system (8), the dialysate low pH and high glucose content (9) and the presence of a foreign body (the peritoneal catheter).

The role of antibiotic prophylaxis is to reduce the possibility of a significant infection complication. Randomized, double-blind, placebo-controlled trials, however, will likely never be performed. What can be extrapolated from the literature is the number of reports of infection complications associated with endoscopy procedures. Current guidelines for antibiotic (AB) prophylaxis during colon and rectal endoscopy are focused on the prevention of endocarditis or infected prosthesis (10, 11, 12). Nevertheless some recommendations (13) have addressed the issue of AB prophylaxis in CAPD patients since they represent a unique group. Short-term AB prophylaxis is recommended to PD patients undergoing

colonoscopy with polypectomy. Ampicillin plus an aminoglycoside with or without metronidazol given just prior to the procedure may decrease the risk of peritonitis. The abdomen should also be emptied of fluid prior to colonoscopy (13).

VE are felt to be acquired lesions associated with aging and may also be associated with renal failure (14). APC, injection therapy, monopolar and bipolar electrocoagulation and the heater probe have all been used to ablate vascular lesions (15). Recurrent bleeding from VE is possible after endoscopic therapy, with the usual need more than one therapeutic session (16). APC has been showed to be an effective and safe therapy in angiodysplasia - associated gastrointestinal bleeding (17). In this case we used injection therapy with epinephrine followed by APC because of the index procedure failure with single therapy. Since the cecal wall is only a few millimetres thick, APC lower-power settings, needle injection tangentially to the mucosal surface and avoidance of excessive inflation were considered in this case.

To the best of our knowledge this is the first case report of CAPD-associated peritonitis after APC and injection therapy in the colon. Although we cannot rule out perforation with absolute certainty, no free air was documented and the patient improved with medical therapy. Some lessons can be draw from this case regarding AB prophylaxis in CAPD patients. The current case coupled with the available case reports suggests that, to reduce morbidity, emptying the peritoneal cavity of dialysate prior to the procedure and the use of broad-spectrum antibiotics is probably wise if polypectomy or APC is anticipated. Finally, APC should probably be used judiciously in the cecum, avoiding excessive inflation or high power settings.

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