



## PERITONITES IN PERITONEAL DIALYSIS PATIENTS: CLINICAL OUTCOMES.

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### Abstract

Peritonitis is one of the most common complications of population with chronic kidney disease on peritoneal dialysis. The most frequent etiological agents are bacteria and fungi, the latter being responsible for 2 to 5% of all cases of this type of infection. Fungal peritonitis is severe and its occurrence requires the immediate removal of the catheter and the transfer of renal replacement therapy for hemodialysis. The present study aimed to analyze retrospectively the risk factors and clinical outcomes of patients at the Centro Integrado de Nefrologia (CIN) of the Hospital das Clínicas da UNICAMP, who presented bacterial or fungal peritonitis, comparing them to patients on peritoneal dialysis who did not presented peritonitis.

### Key words:

chronic kidney disease, peritoneal dialysis, peritonitis.

### Introduction

Chronic kidney disease (CKD) is considered a public health problem by having high prevalence and high mortality in patients with advanced stage disease or dialytic, that requires renal substitutive therapy – kidney transplant, hemodialysis (HD) or peritoneal dialysis (PD). The results of PD and HD treatment have the same effectiveness, with PD being the method of choice for those who do not tolerate HD and/or who are unable to adequately vascular access. A common complication of PD therapy is peritonitis. The risk factors that involve it are diverse, the main one being antisepsis, especially the hands. The most common agents of this infection are bacteria and fungi. Fungal peritonitis is severe, with high mortality and its occurrence requires the immediate removal of the catheter. This study sought to understand the clinical outcomes related to the development of peritonitis, comparing patients who presented the infection with others who did not have any episodes.

### Results and Discussion

Of the 25 patients observed - through data collection by review of medical records - 19 had peritonitis during the 12-month period (peritonitis group) and the other 6 had no episodes (control group). No significant differences were observed in relation to age, gender and body mass index of the patients. Comorbidities such as diabetes *mellitus* and dyslipidemia were more prevalent in the peritonitis group. Regarding the etiology of CKD, 8 patients in the peritonitis group had systemic arterial hypertension as the principal cause of the disease. The main etiological agent of bacterial peritonitis was *Staphylococcus aureus*, whereas *Candida spp* was responsible for all cases of fungal peritonitis. Among the laboratory criteria, the serum calcium level showed a statistically significant difference ( $p = 0,046$ ) between the control and peritonitis groups. The leukocyte count in the hemogram showed a statistically significant difference ( $p = 0,038$ ) among the subgroups of patients who presented bacterial or fungal peritonitis. Regarding the clinical outcomes, of the 19 cases studied, 3 had fungal etiology and performed catheter removal, as recommended by the guidelines. However, one of the patients removed the catheter only after treatment, worsening the clinical outcome when compared to the other two, and was hospitalized within 6 months after the peritonitis episode

and died. Among the 19 patients in the peritonitis group, 10 underwent a method change, 6 required hospitalization, 2 presented new peritonitis and 4 died; this shows that peritonitis makes the clinical condition more serious and may worsen the outcomes.

### Conclusions

Considering peritonitis as a serious complication resulting from the treatment of patients with CKD through peritoneal dialysis, we identified factors associated with this complication and its clinical outcomes. The main risk factors observed are preventive measures such as antisepsis of the hands, care with the hygiene of the catheter exit site and adequate training of the patient and his caregiver. Among the clinical outcomes, it was observed that, after the peritonitis episode, a large part of the patients performed the removal of the Tenckhoff catheter and changed the dialysis method from PD to HD. The most frequent etiological agents were *Staphylococcus aureus* and *Candida spp*, being the latter responsible for the most severe cases of peritonitis, with consequent immediate removal of the catheter and change of method of all affected patients. In addition, episodes of peritonitis were more frequent in patients with lower serum calcium and higher parathyroid hormone levels.

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