

Surgical Complications of Peritoneal Dialysis

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Abstract

Peritoneal dialysis (PD) is a method of renal function replacement which has a series of advantages like greater autonomy of the patient with fewer hospital visits and better preservation of residual renal function, but it has also disadvantages. The main disadvantages are a limited life-time due to peritoneal membrane failure and the risk of infections. The main complication of PD remains peritonitis, which is responsible for the most cases of method failure. There are also other complications which incorrect treated may lead to failure of the method: mechanical complications, abdominal wall defects, exit site and tunnel infections. Encapsulating peritoneal sclerosis is a rare entity found in PD patients but with high morbidity and mortality. We have retrospectively analyzed the patients with end stage renal disease under peritoneal dialysis which were admitted to Surgical Clinic "I. Juvara" of the Clinical Hospital "Dr. I. Cantacuzino" between 2007 and 2017 for surgical complications related to PD. The patients were assigned in two groups: with non-infectious and infectious complications. We have found 109 patients which have had 126 surgical interventions related to peritoneal dialysis. Out of these, 30 interventions consisted in catheter removal for loss of ultrafiltration capacity, so these were excluded from analysis. The lot resulted consisted in 80 patients with 91 complications: 42 non-infectious and 49 infectious. Mean age was 60.5 (± 12.3) years. Sex distribution was 2.75/1 male/female. Diabetes mellitus was present at 45 (56,25 %) patients. Comparing the patients with non-infectious with those with infectious complications we found significant association between type of complications and the length of PD in the sense that infectious complications tend to appear later than the non-infectious. Also, the loss of peritoneal dialysis is strongly associated with infectious complications. Looking inside groups we found that abdominal wall defects are associated with the history of previous abdominal surgery ($p < 0,001$). Regarding the morbidity and mortality only infectious complications had associated mortality in our study, there were no significant differences in morbidity rate between groups. Between all these patients we have also identified 16 with encapsulating peritoneal sclerosis. In most cases the diagnosis was established during the intervention for another complication. We have registered a 20% morality rate at these patients. Conclusions: Noninfectious surgical complications are not raising problems for diagnosis or surgical treatment, but an incorrect treatment may lead to failure of the PD. Infectious complications and especially peritonitis remains the main cause of method failure. These are generating the highest rates of morbidity and mortality from peritoneal dialysis complications. Even if the immediate surgical intervention for peritonitis related to peritoneal dialysis is usually unnecessary, surgical observation is absolutely mandatory in every case. The absence of a response to the proper medical treatment is an indication for peritoneal cavity exploration inclusive by laparoscopy/laparotomy. Any delay in diagnosis and definitive treatment can lead to loss of peritoneal membrane function and even death of the patient. Encapsulated peritoneal sclerosis is a rare but serious complication of PD. The risk for developing EPS increases with the duration of PD treatment. No predictive and reliable screening tests especially in the early stages of EPS were found. So, it is important not to underestimate the clinical symptoms, diagnosis being based on a high index of suspicion. The only established basic treatment of EPS is enterolysis of peritoneal adhesions, and time should not be unnecessarily wasted on conservative treatment.

Key words: peritoneal dialysis, catheter, peritonitis, encapsulated peritoneal sclerosis