

# A Rare Case: Tuberculous Peritonitis, Encapsulating Peritoneal Sclerosis, and Incisional Hernia in Continuous Ambulatory Peritoneal Dialysis Patient

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## Abstract

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**BACKGROUND:** Peritonitis is the most common infectious complication of peritoneal dialysis (PD) with an estimated ratio of 1:20–30 patients per month. In addition, less than 3% cases are due to Mycobacteria, although not all are caused by Mycobacteria tuberculosis. Therefore, specific examinations are needed for proper diagnosis. Encapsulating peritoneal sclerosis (EPS), another rare complication of PD, accounts for 0.7–13.6 per 1000 patients per year.

**CASE REPORT:** A 37-year-old man undergoing PD, with complaints of intermittent abdominal pain and cloudy fluid, followed by nausea, vomiting, and constipation. Furthermore, visible protrusion was observed on the abdominal wall due to the wound from the Tenckhoff catheter insertion surgery. This is clearly comprehended as the patient sits or stands but disappears on lying down. Along with the condition, continuous ambulatory PD (CAPD) ultrafiltration ability decreases, rough defecation occurs, with a hard sensation on the lower right abdomen. Moreover, the patient had earlier suffered peritonitis for the 3rd time. The results of the dialysate fluid analysis showed a cloudy liquid coloration, as the number of cells 278, polymorphonuclear 87, mononuclear 13, Ziehl–Neelsen +1 and acid-resistant bacteria +3 staining, including GeneXpert MTB/RIF, were positive. Furthermore, abdominal computed tomography (CT) scan revealed a thick peritoneum, partly with calcification, air-filled intestinal, dilated colon with wall thickening. Furthermore, the mesentery lining the liver and intestine were observed to be dense with multiple calcifications to support an EPS. Definitive diagnosis is confirmed by laparotomy and/or laparoscopy, but CT scan provides an alternative. Subsequently, CAPD utilization is discontinued and switched to renal replacement therapy to hemodialysis twice a week due to several complications associated with PD, ranging from recurrent peritonitis, tuberculous peritonitis, EPS, and incisional hernias responsible for an ineffective PD ultrafiltration.

**CONCLUSION:** At present, the combination of clinical symptoms, radiology, and medical pathology remains the key to diagnosing tuberculous peritonitis and EPS. Consequently, prompt and precise analysis determines a good prognosis.

## Introduction

Peritonitis is perceived as one of the most common infectious complications in peritoneal dialysis (PD) with estimated frequency of 1: 20-30 patients per month and mortality rate of 15–18% [1]. The condition is possibly caused by mycobacteria, although in rare proportion (<3%). However, countries in Asia and Africa show a higher prevalence, but not all the infections are due to *Mycobacteria tuberculosis* (Mtb). Therefore, specific tests are needed for proper diagnosis [2].

Similarly, encapsulating peritoneal sclerosis (EPS), an uncommon complication of PD with incident rate varying from 0.7 to 13.6 per 1000 patients per year. The condition causes ultrafiltration failure and intestinal obstruction, although in rare cases, and is associated with significant morbidity and high mortality [3].

This case is further discussed by a patient with tuberculous encapsulating peritonitis, EPS, and

incisional hernia. The importance of the subject matter is due to an uncommon occurrence, termed the presence of multiple complications in end-stage kidney disease patients undergoing continuous ambulatory PD (CAPD) and requires comprehensive management.

## Case Illustration

A male, 37 years old, arrived the Emergency Room at Ulin Hospital Banjarmasin, Indonesia, with severe recurrent abdominal pain, but then extended beyond the region the next day. Consequently, complaints are accompanied by a change in the PD fluid to cloudy coloration (Figure 1), followed by nausea, and brownish vomiting up to 5 times. However, within 2 months before hospital admission, the fluid replacement became less effective leading to the