

Abstract Type: Poster exhibition Abstract Submission No.: A-0133

**Abstract Topic: Dialysis** 

## Polymicrobial, Refractory Peritonitis in a PD Patient Associated with Colon Cancer: A Case Report

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Case Study: Polymicrobial peritonitis in peritoneal dialysis (PD) patients may be associated with intra-abdominal structural abnormalities. Timely identification and treatment of these abnormalities are important for effective management and improved outcomes. A 47-year-old man with Fabry disease on PD presented with abdominal pain and cloudy dialysate. Peritoneal fluid analysis confirmed peritonitis, and a palpable intra-abdominal mass prompted imaging, which revealed findings suspicious for ascending colon cancer with peritoneal seeding on computed tomography. Peritoneal fluid culture yielded Escherichia coli and Enterococcus faecalis, while blood cultures were also positive for E. coli. The patient was treated with intravenous ceftriaxone and intraperitoneal vancomycin, leading to improvement in peritoneal fluid leukocyte counts after 5 days of treatment. Endoscopic evaluation of the colon and the stomach identified colon cancer with gastric metastasis. He was discharged on oral antibiotics with plans for chemotherapy initiation after infection resolution. 11 days post-discharge, the patient returned with refractory PD peritonitis. The PD catheter was removed, and he was transitioned to hemodialysis. Given the persistent gastrointestinal symptoms that included poor oral intake and constipation, palliative ileostomy was planned. Two days after discharge, the patient developed acute abdominal pain and new-onset pneumoperitoneum. Intraoperatively, a perforation site was repaired, and an ileostomy was created. Despite over a month of antibiotics treatment, intra-abdominal infection was refractory to treatment, and the patient was discharged with a poor prognosis. Polymicrobial peritonitis with enteric organisms often indicates underlying intraabdominal pathology, including rare causes like colon cancer. Early imaging and timely interventions are essential for managing refractory peritonitis and preventing complications.

