Fistulizing TB peritonitis during CAPD

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Case

A 42-year-old woman who was receiving long-term continuous ambulatory peritoneal dialysis (CAPD) for renal failure was admitted to the hospital because of high fever and chills. Five years earlier, she had been diagnosed to have tuberculous (TB) lymphadenitis based on neck lymph-node biopsy and had been treated with rifampicin, isoniazid and ethambutol for 9 months. She remained well until 1 month before admission, when she began to develop fatigue and body-weight loss.

On physical examination, the patient’s abdomen was generally tender, with guarding and rebound tenderness. Initial peritoneal fluid cell count was 18 µl and then became 300 µl with neutrophil predominance on day 3. Peritoneal fluid for Gram stain and acid-fast bacilli smear were negative. Specimens of blood and peritoneal fluid were obtained for culture and empiric antibiotic therapy was started. However, daily fever spikes persisted, with nightly shaking chills and sweats despite changing antibiotics to a combination of vancomycin, ceftazidime and metronidazole for possible septic syndrome. A computed tomographic scan of the abdomen and pelvis showed ascitic fluid, thickening and oedema of the mesentery and omentum, and multiple enlarged lymph nodes. Repeated peritoneal fluid cultures were sterile. The peritoneal catheter was removed and the patient was transferred to haemodialysis. Six weeks after admission, the peritoneal fluid culture grew *Mycobacterium tuberculosis*, which was found to be sensitive to isoniazid, rifampicin, ethambutol, pyrazinamide and streptomycin on susceptibility testing. The patient was placed on anti-TB medications consisting of isoniazid, rifampicin and pyrazinamide.

The patient was readmitted 3 months later, however, with recurrence of fever and pus discharge from the umbilicus. The pus smear was positive with a moderate (2+) amount of acid-fast bacilli present. A fistulogram (Figure 1), performed under fluoroscopy with contrast injection into the umbilical orifice through an 8 Fr. Foley’s catheter, revealed even dispersion of the contrast medium into the peritoneal cavity, suggesting a direct communication. To our knowledge, umbilical fistula formation has never been observed in association with TB peritonitis during CAPD [1]. The umbilicus is the thinnest part of the lower abdomen. As the peritoneal granulomatous inflammation expands due to non-compliance or development of

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Fig. 1. Fistulogram through the umbilical opening (arrow) shows a fistulous tract down to the peritoneal space.
drug-resistant *M. tuberculosis*, it may reach vestigial structures with connection to the umbilicus, finding a path of least resistance and fistulizing to it [2]. Second-line anti-TB agents including ciprofloxacin and streptomycin were added to the original regimen. The patient improved clinically with progressive decrease in pus discharge and closure of the fistula. Streptomycin was stopped 2 months later. She has completed a further period of 10 months of a four-drug therapy and is currently asymptomatic.

**Conflict of interest statement.** None declared.

**References**