Fidaxomicin for *Clostridium difficile* Colitis in a Peritoneal Dialysis Patient with Underlying Mitochondriopathy

Editor:

The interesting observations by Wolfgram and colleagues (1) prompted us to contribute our recent experience with a peritoneal dialysis (PD) patient suffering from recurrent *Clostridium difficile* colitis.

CASE REPORT

In September 2012, a 49-year-old woman on PD was admitted for a first episode of peritonitis (*Enterobacter cloacae*). Her underlying renal disease was hereditary mitochondriopathy (3243A>G mutation of mitochondrial DNA). Initial treatment consisted of intraperitoneal vancomycin and ceftazidime per local protocol, with good recovery.

Seven weeks later, this patient was readmitted with nausea and vomiting. She was febrile, but the effluent was clear. Inflammatory markers were significantly elevated. The same day, she developed profuse diarrhea, and *C. difficile* infection was diagnosed by a combined enzyme immunoassay for *C. difficile* glutamate dehydrogenase and *C. difficile* toxins A and B. Cultures for *Campylobacter* and *Salmonella* came back negative.

The patient was placed on contact precautions, and metronidazole 500 mg 3 times daily was prescribed. Recovery was slow, and oral vancomycin 250 mg 4 times daily was added on day 11 because of persistent diarrhea. After a fortnight in hospital, the patient was discharged home.

This patient re-presented 3 weeks later with profuse diarrhea. On examination, she appeared toxic, and laboratory results showed a severe inflammatory response (C-reactive protein peak: 224 mg/L). Recurrent disease was confirmed microbiologically. Oral vancomycin was recommenced, but did not lead to clinical improvement over the next 5 days. The patient ate little and had lost 8 kg in weight since her initial presentation in September. Because she was increasingly compromised by protracted illness and because her inflammatory markers continued to rise, fidaxomicin (200 mg twice daily) was added on day 6 of this admission. Diarrhea abated promptly, and

C-reactive protein almost normalized over the next 4 days. The patient was allowed to go home with 7 more days of fidaxomicin. During 3 months of follow-up, she continued to make a good recovery from her prolonged and severe illness.

DISCUSSION

Fidaxomicin is a potent, albeit expensive, new treatment option for severe relapsing *C. difficile* colitis, with limited systemic absorption (2,3). No contraindications are listed in the prescribing information, and no dose adjustment based on renal function is recommended (3,4). To the best of our knowledge, this report is the first of successful fidaxomicin use in a PD patient. We are not aware of any data pertaining to drug levels in peritoneal dialysate and suggest that testing should be performed on a future occasion.

The unusual underlying renal disease warrants emphasis. Mitochondrial disorders are associated with protean manifestations, including gastrointestinal complications ranging from reflux and constipation to frank pseudo-obstruction. Given this underlying intestinal dysmotility, an increased risk of PD-related peritonitis is conceivable in this population (5). Certain drugs—new systemic antibiotics among them—are known to trigger severe side effects in patients with mitochondriopathies (6). Compounds with minimal absorption such as fidaxomicin could represent a safer alternative under such circumstances.

DISCLOSURES

The authors have no financial conflicts of interest to declare.

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