

## KSN 2017 Abstract

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### AUTOMATED PERITONEAL DIALYSIS-RELATED PERITONITIS CAUSED BY CO-INFECTION WITH MORGANELLA MORGANII AND CORYNEBACTERIUM SPECIES

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**Case Study :** A Peritoneal dialysis (PD) related infection is the most common and serious complication in patients undergoing peritoneal dialysis. *Morganella morganii* (*M. Morganii*) is a Gram-negative rod that is part of the normal flora of the intestinal tract in humans and other animals. However, *M. Morganii* is a rare cause of PD-related peritonitis. This case is the fifth PD-related peritonitis case due to *M. morganii* and the first case of APD related peritonitis by either *M. morganii* and of PD-related peritonitis by co-infection of by *M. morganii* and *Corynebacterium* species so far reported in the literature. Also, this is the first report of peritonitis due to *M. morganii* in Republic of Korea. We herein report a case of *M. Morganii* and *Corynebacterium* species co-infection in a patient with peritonitis.

A 78-year-old woman with end-stage renal disease secondary to diabetes mellitus on APD admitted with abdominal pain and cloudy peritoneal fluid. Five years before admission, CAPD was initiated for end-stage renal disease and switched to APD 3 years before. On physical examination, Her blood pressure was 130/70 mmHg, her heart rate was 88 beats/min, her respiratory rate was 20 breaths/ min and; her temperature was 37.4°C. A laboratory investigation revealed the following findings: hemoglobin = 9.9 g/dL; white blood cell count (WBC)= 9,490/mm<sup>3</sup> with 82% polymorphonuclear cells; C-reactive protein = 10.1mg/dL. A physical examination revealed a remarkable level of abdominal tenderness. The effluent peritoneal fluid was cloudy, with a WBC count of 11,500/mm<sup>3</sup> (predominantly polymorphonuclear cells). After performing a peritoneal fluid culture, the patient was treated with intraperitoneal (IP) antibiotics, specifically ceftazidime and cefazolin. Two days after the start of antibiotic therapy, the patient's abdominal pain subsided and the peritoneal fluid became clear. On hospital day 4, a culture of the peritoneal fluid obtained on admission day revealed *M. Morganii* which was sensitive to ciprofloxacin and ceftazidime and piperacillin/tazobactam and resistant to cefazolin and amoxicillin. As a result, the antibiotic regimen was switched to IP ceftazidime alone. Treatment with IP ceftazidime was continued, and the patient was discharge on hospital day 5. Although IP antibiotics injection had lasted in the home, however, on 9th day after discharge, effluent peritoneal fluid became cloudy again. Further laboratory tests showed an elevated CRP level, leukocytosis and peritoneal WBC count. We considered the antibiotic treatment

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to have failed due to bacterial colonization of the surface of the peritoneal Tenckhoff catheter. Therefore, we decided to remove the catheter, and switch the treatment regimen to hemodialysis. Consequently, A culture of the peritoneal fluid revealed organisms initially identified as Gram-positive rods, later identified as *Corynebacterium* species, which was sensitive to vancomycin and teicoplanin and resistant to oxacillin and ciprofloxacin. The IP antibiotics were discontinued and vancomycin was administered intravenously for an additional two weeks, while the patient continued to remain asymptomatic. *M. Morganii* is a rare cause of PD-related peritonitis, and our patient may be first case of APD related peritonitis by *M. morganii* and of PD-related peritonitis by co-infection of by *M. morganii* and *Corynebacterium* species.

**Keywords** : Peritoneal diaysis, *Morganella morganii*, CORYNEBACTERIUM SPECIES