Exit Site Infection Due To Non Tuberculous Mycobacterium

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Abstract

We present a patient of exit-site and tunnel infection caused by Mycobacterium fortuitum who was successfully treated with antibiotics and partial catheter reimplantation.

Keywords: Exit site infection, non tuberculous mycobacterium

Background

Frequent sites of infection in peritoneal dialysis include the catheter exit site, the catheter tunnel, and the peritoneum. Non tuberculous mycobacteria causing exit site infections has been reported infrequently before. We present a patient of exit-site and tunnel infection caused by Mycobacterium fortuitum who was successfully treated with antibiotics and partial catheter reimplantation.

Case Report

A 35- year-old school teacher was on continuous ambulatory peritoneal dialysis (CAPD) from January 2011. Her primary kidney disease was renal biopsy proven chronic glomerulonephritis. She was performing 3 exchanges per day with 2.5% dextrose Dianeal solution (Baxter India Pvt Ltd, New Delhi). Her peritoneal equilibration test revealed low average transport status. She had 1.6 L of ultrafiltration per day and urine output of 250 mL per day. About six months ago, she presented with history of fall from her scooter and subsequent to which the transfer set broke and the catheter developed a crack. The peritoneal fluid leaked out. At hospital the remaining peritoneal fluid was drained. The leucocyte count was nil and the culture was sterile. On the next day, the peritoneal catheter was removed and replaced with a new one simultaneously. On the second postoperative day there was soaking of dressing. There were drops of pus at exit site and the tunnel ultrasound revealed fluid collection up to 15 mL in the tunnel. The culture of pus revealed the growth of coagulase negative Staphylococcus aureus. On sixth day the Bactec culture had shown the growth of non-tuberculous mycobacterium (NTM). The NTM was later confirmed to be Mycobacterium fortuitum. The leucocyte count of peritoneal fluid was nil for five successive days. The culture of peritoneal fluid was sterile on two occasions. She was treated with a combination of with daily dressing with povidone-iodine ointment and a combination of drugs. The combination included trimethoprim-sulfamethoxazole (800/160 mg twice a day), clarithromycin (250 mg twice a day), ciprofloxacin (500 mg twice a day). The pus from the tunnel was expressed at the time of dressing. The antibiogram revealed that the organism was also sensitive to amikacin, levofloxacin and imipenem in addition the drugs already initiated. The patient was followed by weekly ultrasound of the tunnel. The collection remained as 15 mL for three weeks. As there was no reduction in collection partial catheter reimplantation—that is, reimplantation of the...

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extraperitoneal portion of the catheter with creation of a new subcutaneous tunnel on to the right side was performed. The left side tunnel was closed surgically. The fluid from the left sided tunnel had also shown growth of *Mycobacterium fortuitum*. The CAPD was not interrupted. After six months of therapy she was on regular CAPD, thrice a day. This combination of drugs is going to be continued for eighteen months.

**Discussion**

*M. fortuitum* is classified in the Runyon group IV (1), rapidly growing mycobacteria. It has been found in natural and processed water sources, as well as in sewage and dirt. *M. fortuitum* can cause local cutaneous disease, osteomyelitis, joint infections and ocular disease. Endocarditis, pulmonary disease and dissemination are rare manifestations. There were not more than twenty two patients' reports (2-10) of NTM causing tunnel and exit site infections in CAPD patients. The Tenckhoff catheter was retained in nine (40.9%) of them. The measures included early antibiotic therapy, cuff shaving and partial reimplantation of catheter. In three patients the Tenckhoff catheter was removed after 4, (2) 5 and 4 months (3) of treatment for NTM. In eleven patients, there was a preceding exit site infection by another bacterium. The dominant NTM was *M. fortuitum* in twelve patients (54.5%). The other species were *M. chelonae* (4, 18.1%), *M. abscessus* (3, 13.6%), *M. gordonae* and *M. chelonae-M. abscessus* complex in one each (4.5%). The partial reimplantation of catheter was reported effective only in one previous study (10). It should also be noted that the infection due to NTM should be suspected when an exit-site infection fails to respond to initial empiric therapy (3).

**References**