

## Recurrent Peritonitis Episodes in a Continuous Ambulatory Peritoneal Dialysis Patient After Gynecologic Procedures

KEY WORDS: CAPD; gynecologic procedures; chronic kidney disease; peritonitis.

### Editor:

Few reports have discussed the transvaginal mechanism of infection in continuous ambulatory peritoneal dialysis (CAPD)-related peritonitis. Here, we present the case of a woman with end-stage renal disease on CAPD experiencing recurrent episodes of peritonitis after gynecologic procedures.

A 41-year-old woman had been on CAPD since 2004 because of immunoglobulin A nephropathy. In April 2009, a Pap smear resulted in a report of cervical intraepithelial neoplasia grade III. The patient underwent cervical conization and endocervical curettage under colposcopy. About 2 weeks later, she experienced the first episode of peritonitis, with the dialysate culture being positive for *Stenotrophomonas maltophilia*. This peritonitis was successfully treated with intraperitoneal (IP) cefazolin 200 mg and gentamicin 8 mg in each bag for the first 3 days, and then with IP ciprofloxacin 100 mg in the last daily bag for the next 12 days.

After 9 months, the patient underwent a follow-up Pap smear. On the day after that test, she found cloudy effluent, which revealed a white cell count of 1168/ $\mu$ L, with 100% neutrophils. Dialysate culture yielded *Streptococcus viridans*. This peritonitis subsided after treatment with IP cefazolin and gentamicin for 2 weeks. However, 2 weeks later, another episode of culture-negative peritonitis occurred. The Tenckhoff catheter was removed, and the patient was temporarily switched to hemodialysis for 1 month because of treatment failure after 2 weeks of vancomycin.

In October 2010, the patient had another Pap smear, and again, the dialysis effluent became cloudy on the following day. Effluent analysis revealed a white cell count of 663/ $\mu$ L with 99% neutrophils. Cultures of effluent and blood were negative. This episode of peritonitis was successfully treated with 2 weeks of IP cefazolin 200 mg and gentamicin 8 mg in each bag.

### DISCUSSION

In our patient, the first episode of peritonitis, caused by *Steno. maltophilia*, occurred 2 weeks after conization. This bacterium is a common environmental saprophyte isolated from water, soil, foods, and hospital equipment (1). Peritonitis from *Steno. maltophilia* often occurs in PD patients with comorbidities or in those on immunosuppressants (1,2). We can not exclude the possibility of introduction of the bacterium through the manipulated cervix.

The second episode of peritonitis was caused by *Strep. viridans*. The most common source of *Strep. viridans* is the oral cavity (3). Cases of *Strep. viridans* peritonitis have been reported in PD patients after dental surgery (4) and gastroscopy (5). The clinical course is benign, but the recurrence rate is high (3). Our patient underwent neither a dental procedure nor endoscopy before the peritonitis. The source of the *Strep. viridans* is probably related to the Pap smear procedure. This bacterium is also normal flora in the vagina (6).

Our patient experienced 3 episodes of peritonitis. One followed the colposcopy and conization, and the other two occurred after a Pap smear. The transvaginal route is one of the possible mechanisms. We hypothesize that the conization might have changed the cervical microflora and anatomy, which resulted in the first peritonitis, and that the subsequent episodes of peritonitis were precipitated by the Pap smears. The prescription of antibiotics before dental procedures (4) and gastroscopy (5) in PD patients has been suggested in previous reports. We suggest that CAPD patients might benefit from antibiotic prophylaxis before gynecologic procedures such as

Pap smears and conization. Further studies are required for clarification.

## DISCLOSURES

The authors have no conflicts of interest to disclose.

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## REFERENCES

1. Taylor G, McKenzie M, Buchanan-Chell M, Perry D, Chui L, Dasgupta M. Peritonitis due to *Stenotrophomonas maltophilia* in patients undergoing chronic peritoneal dialysis. *Perit Dial Int* 1999; 19:259–62.
2. Baek JE, Jung EY, Kim HJ, Lee GW, Hahm JR, Kang KR, et al. *Stenotrophomonas maltophilia* infection in patients receiving continuous ambulatory peritoneal dialysis. *Korean J Intern Med* 2004; 19:104–8.
3. Shukla A, Abreu Z, Bargman JM. Streptococcal PD peritonitis—a 10-year review of one centre's experience. *Nephrol Dial Transplant* 2006; 21:3545–9.
4. Kiddy K, Brown PP, Michael J, Adu D. Peritonitis due to *Streptococcus viridans* in patients receiving continuous ambulatory peritoneal dialysis. *Br Med J (Clin Res Ed)* 1985; 290:969–70.
5. Machuca E, Ortiz AM, Rabagliati R. *Streptococcus viridans*-associated peritonitis after gastroscopy. *Adv Perit Dial* 2005; 21:60–2.
6. Hammann R. A reassessment of the microbial flora of the female genital tract, with special reference to the occurrence of *Bacteroides* species. *J Med Microbiol* 1982; 15:293–302.

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