Ten-Year Experience with Exit Site Infections

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Dear Sir,

Peritoneal catheter infections (CI) have been an Achilles' heel for patients utilizing continuous ambulatory peritoneal dialysis (CAPD) as their treatment option. In 1985 the NIH-supported National CAPD Registry cited an incidence for CI of 1 in 20 patients months [1].

Staphylococcus aureus CI are common [2,3] and a 17–20% association between peritonitis and CIs has been reported [4, 5].

Treatment of CI is varied including prolonged courses of cloxacillin or cephalosporin requiring consideration of risk of superinfection with resistant micro-organisms [6]. Oral or parenteral (iv. or ip.) vancomycin is given for gram-positive bacteria and aminoglycosides for gram-negative organisms [7]. Excising the external cuff is reasonable when the CI does not respond to antibiotics alone [8].

Studies indicate *Pseudomonas aeruginosa* CI caused a 58% removal of catheters as compared to 16% removal caused by other organisms [9]. Gokal et al. [10] reported that CI accounted for a 6% temporary switch from CAPD to hemodialysis and 10% of all catheter removals. Severe peritonitis causing dropout or mortality has been associated 50% of the time with CI [11]. University of Pittsburgh found that CI accounted for 21% of all permanent transfers to hemodialysis [12].

The incidence and prevalence of CI in our CAPD program spanning over 10 years was examined. One hundred and thirty-four patients were followed for 94,113 patient days. There were 51 cases of CI (1 case/263.62 patient weeks). In diabetics the incidence was 1/159.15 patient weeks and in nondiabetics, 1/603.17 weeks. Diabetic incidence of peritonitis was 1/41.4 patient weeks and nondiabetics was 1/47.6 patient weeks.

Our case experiences are represented in tables 1 and 2. Peritonitis did not necessarily mean replacement of the catheter. Only 3 patients failed to return to CAPD after temporary periods of hemodialysis, and 2 of these dropouts related to fungal peritonitis with loss of ultrafiltration. Our center utilized a standard straight double-cuff Tenckhoff catheter angled downward with no stitch at the exit site. The catheter rests for 3 weeks before CAPD is initiated unless otherwise medically necessary. Patients perform a clean dressing change of the exit site

Table 1. Response to therapy of CI

The table represents the causative organisms, treatment regime, and catheter outcome (saved vs. lost) in parentheses.

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daily by cleansing with 3 betadine swab sticks, patting dry with 4x4, applying betadine ointment, applying split 2 x 2's and finally applying an airstrip. Patients may shower but not bathe, and must perform the CAPD dressing change when showering is completed.

It is vital to avoid CI, and implement protocols for treating CI occurrences early and aggressively. CAPD nurses must train patients to handle this 'life line' appropriately. We believe our protocol for performing CAPD dressing change is the reason for our reduced incidence of CI, 1/263.62 patient weeks.

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