Bag Exchange in Continuous Ambulatory Peritoneal Dialysis Without Use of a Face Mask: Experience of Five Years

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This article describes our five-year experience of continuous ambulatory peritoneal dialysis (CAPD) with bag exchanges performed without use of a face mask. The study took place in the renal unit at a university hospital. All patients admitted to the CAPD program from February 1995 to March 2000 were trained to perform bag exchanges without use of a face mask. Occurrence of peritonitis episodes was the outcome of interest.

We evaluated 94 patients (52 women, 42 men) with a mean age of 48 ± 21 years and a total follow-up of 50,502 patient-days. During that time, 79 episodes of peritonitis occurred in 46 patients, for a peritonitis rate of 0.57 episodes/year. The most frequently isolated micro-organisms were Staphylococcus epidermidis in 20 patients (25.3%) and S. aureus in 11 patients (13.9%). Renal transplantation was the major cause of drop-out [23 patients (43.4%)], followed by peritonitis [14 patients (26.4%)], death due to cardiovascular complications [9 patients (17.0%)], loss of ultrafiltration [2 patients (3.5%)], and other causes [5 patients (9.4%)]. The probability of being free of peritonitis at 12 months was 0.66, and at 60 months, 0.37. Peritonitis rates during the study period were not different from those reported by other centers, supporting the hypothesis that routine use of a face mask during CAPD bag exchange may be unnecessary.

Key words

Complications in CAPD, infection prevention, peritonitis

Introduction

Peritonitis is a serious complication of continuous ambulatory peritoneal dialysis (CAPD), and a significant cause of treatment failure. Peritonitis prevention requires a series of procedures, and routine use of a face mask during CAPD bag exchange has been standard practice in several countries for peritonitis prevention. In a preliminary study (1), the peritonitis rate and the probability of remaining free of peritonitis were not different between groups performing bag exchanges with and without use of a mask. The aim of the present study was to describe a five-year experience of CAPD with bag exchanges being performed without the use of a face mask.

Patients and Methods

This cohort study was performed in the Renal Unit of Hospital São Lucas (a university hospital, in Porto Alegre, Brazil). All patients (n = 94) admitted to the CAPD program between February 1995 and March 2000 were trained to perform bag exchanges without use of a face mask. Every peritonitis episode was registered. The Y-connector, Ultra Bag (Baxter Hospitalar Ltda., São Paulo, Brazil), and Andi-Plas ( Fresnensis Medical Care, São Paulo, Brazil) CAPD systems were employed. All patients and their assistants were trained by the same nurse to perform bag exchanges. The practiced technique involved cleaning components with ethyl alcohol (70%) in a confined environment, and washing hands with glycerin soap for three minutes before starting the procedure. Patients received information regarding peritonitis presentation and measures to be taken in case infection occurred. All patients were also instructed not to talk during bag connections.

Conflict between evidence and surgical tradition surrounds the use of the face mask. Every peritonitis episode was registered. The Y-connector, Ultra Bag (Baxter Hospitalar Ltda., São Paulo, Brazil), and Andi-Plas ( Fresnensis Medical Care, São Paulo, Brazil) CAPD systems were employed. All patients and their assistants were trained by the same nurse to perform bag exchanges. The practiced technique involved cleaning components with ethyl alcohol (70%) in a confined environment, and washing hands with glycerin soap for three minutes before starting the procedure. Patients received information regarding peritonitis presentation and measures to be taken in case infection occurred. All patients were also instructed not to talk during bag connections.

Discussion

We previously verified “no difference in the probableness of developing the first episode of peritonitis without mask” and “no difference in the total number of episodes of peritonitis between patients performing bag exchange ‘with’ and ‘without’ face mask” (1). Furthermore, on Cox proportional hazard regression, “face mask had no protective effect for the occurrence of the first episode of peritonitis” (1). The current study shows that the occurrence of peritonitis in patients performing bag exchanges without a face mask is not different from that reported by other centers (2,3).

The same reasoning may apply to CAPD patients during bag exchange. Our previous study reported the experience of a single center—with a restricted number of patients—but it provided the only available evidence on the use of a face mask and CAPD peritonitis prevention (1).

Conclusion

Peritonitis rates reported during our observation period are comparable with those seen in other centers (2,3) and support the hypothesis that routine use of a face mask during CAPD bag exchange may be unnecessary.

References