

Balancing Precision and Risks: Exploring the Impact of Laparoscopic-Assisted Peritoneal Dialysis Catheter Placement

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ABSTRACT

Background: The laparoscopic-assisted (LA) insertion of peritoneal dialysis catheters (PDC) is economically advantageous due to reduced hospital duration and precise placement, hence minimizing difficulties linked to alternative methods. This study sought to assess the efficacy and complications associated with the laparoscopic insertion of peritoneal dialysis catheters for peritoneal dialysis therapy in patients with end-stage renal failure.

Methods: Categorical variables were presented as frequencies and percentages. The complications were categorized into early and late that occurred within two weeks or afterwards respectively.

Results: A total of 31 patients underwent LA insertion of PDC. In 25 patients (80.6%), the laparoscopic surgery was conducted via a single port. Six patients (19.6%) necessitated supplementary ports. The duration of the procedure was 12 to 40 minutes, with a mean of 23 minutes. The duration of hospitalization was 1 to 3 days. Success was observed in 23 patients (74.2%), but complications arose in eight patients (25.8%). Diagnostic laparoscopy revealed catheter obstruction due to significant omental adhesions, necessitating omentopexy and the insertion of a replacement PDC. Another late consequence observed was infection, which occurred in four patients. Two patients (6.4%) experienced port site infections, with *Staphylococcus aureus* identified as the isolated pathogen in both cases. They had effective conservative treatment. The remaining two patients (6.4%) had peritonitis three- and eight-months post-operation, with *Pseudomonas aeruginosa* identified as the isolated bacterium in both cases. The individuals who developed peritonitis had type II diabetes mellitus. The management involved catheter removal, a two-week course of intravenous antibiotics, and transition to haemodialysis.

Conclusion: successful conservative treatment for port site infections and transition to haemodialysis in cases of peritonitis would therefore intimate the importance of tailored postoperative care in optimizing outcomes for such cases, especially among high-risk patients.

Keywords: Catheter; Effectiveness; Safety; Laparoscopy; Peritoneal Dialysis

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