Abstract Type : Poster exhibition
Abstract Submission No.: A-0781
Abstract Topic : Interventional Nephrology

Comparison of some techniques for laparoscopic peritoneal dialysis catheter insertion

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Objectives : Introduction: In Mongolia, around 100-150 new cases of chronic renal failure are registered annually, with a rising demand for renal replacement therapy. By 2023, 1,887 patients were undergoing renal replacement therapy, of which 7% (approximately 140 patients) used peritoneal dialysis (PD), a 1% increase from 2020. Surgeons aim to choose less complicated and cost-effective methods for placing permanent abdominal catheters, but complications such as migration and obstruction remain challenging.
Methods : Materials and Methods: This study included 24 patients who underwent abdominal catheter placement at Mungunguur Hospital between June 2021 and July 2024. Twelve patients had laparoscopic PDC insertion (control group, Jan 2021-Apr 2023), and twelve had laparoscopically assisted insertion using a low-entry site technique (case group, Apr 2023-Jul 2024). The groups were compared, though limitations included differences in study duration and case numbers. Inclusion criteria: first-time catheter placement, no prior abdominal surgeries, aged 20-50, BMI <27. Exclusion criteria: repeat catheter placement, prior abdominal surgery, or adhesions.
Results : Results: The 24 patients (71% female, 29% male, average age 38) were followed for 6-12 months. No migration occurred in the case group; one case of migration occurred in the control group within 2 months, and another after 6 months. In the 12-month follow-up, no catheter occlusions were observed in the case group (P=0.04), while 2 (17%) cases of occlusion occurred in the control group, with omental wrapping as the cause.
Conclusions : Conclusions: Laparoscopic PDC insertion with a low-entry site reduces migration complications. However, more studies are needed to confirm results. The low-entry site technique may increase tissue damage and hemorrhagic risk. No significant differences were found between omentopexy, omentectomy, and cauterization methods, but cauterization is important to prevent hemorrhage.