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LONG-TERM OUTCOMES OF PERITONEAL DIALYSIS CATHETERS: A SINGLE CENTRED RETROSPECTIVE ANALYSIS OF SURVIVAL & COMPLICATIONS.

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INTRODUCTION

Peritoneal dialysis (PD) is increasingly recognized as a significant modality for renal replacement therapy, with around **19% of new dialysis** patients in **Malaysia** opting for it in 2022. PD treatment been effective in preserving residual renal function , lower cost of therapy and better quality of life as a home based therapy. Proper patient evaluation, meticulous surgical placement, and vigilant post-insertion care are essential to address issues such as infections, catheter malposition, and blockages, ultimately enhancing the effectiveness and longevity of the PD catheter. A multicentric study in Netherlands revealed that **peritoneal dialysis (PD) catheter dysfunction** was a primary reason for **early dropout from PD**. By reviewing catheter performance and identifying key variables affecting their longevity, the study seeks to improve catheter management strategies and enhance patient outcomes in PD.

METHODOLOGY

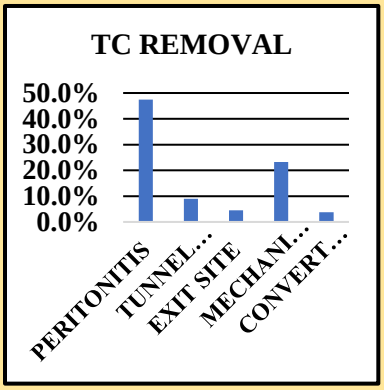
We performed a **retrospective cohort study** on ESKD patients who had PD catheter insertion by nephrology team of Hospital Sultanah Nur Zahirah,Terengganu, Malaysia from **January 2018 to December 2022**. The inclusion criteria was ESKD patiens more than 18 years old who had undergone PD catheter insertion at our facility however we excluded patients with incomplete or missing data. Study population undergone **PD catheter insertion using minor surgical dissection** under local anaesthesia and sedation using modified non-peritoneoscopic technique.

RESULTS

The study included **326 patients** who met the criteria. Among this cohort, **52.8% were female**. The most common comorbidities observed were **hypertension** in **82.2%** of the patients, **diabetes mellitus** in **68.7%,** and **ischemic heart disease** in **23.6%.**

RESULTS

- In our study, **98.2%** of the patients underwent peritoneal dialysis catheter insertion for **long-term peritoneal dialysis,** while the remaining **1.8%** had the catheter placed for **interim PD** while awaiting hemodialysis vascular access.
- Routine post-procedure abdominal X-rays revealed that **309 (94.8%)** of the PD catheters were correctly positioned at pelvic cavity, while **17 (5.2%)** were noted to be malpositioned. Among the 17 malpositioned catheters, **47% required removal.**
- Overall, **40.8%** of the PD catheters were removed, with a **mean survival of 14.5 months** among them. Of the removed catheters, **18.8% had a lifespan exceeding 24 months**. The most common reasons for removal included infections such as **peritonitis (47.4%),** tunnel infection (9%), and exit site infection (4.5%). Mechanical issues were responsible for 23.3% of the removals, while 3.8% were due to conversion to hemodialysis.



- The **overall mortality rate** in the study population **was 19.9%.** The cause of the mortality otherwise not specified.

CONCLUSION

Our study revealed that **diabetes and hypertension are the primary contributors** to end-stage kidney disease (ESKD) within the local population. Additionally, the **modified non-peritoneoscopic surgical technique** demonstrated **notable effectiveness**, as evidenced by the **high rate of correctly positioned catheters confirmed** through postoperative imaging.

Catheter-related infections have been a significant challenge in our peritoneal dialysis (PD) program, as our study indicates. Further **research** into patient demographics including socioeconomic factors, education levels, and understanding of the PD program which could be beneficial in **reducing infection rates** and **improving PD effectiveness**. **Empowering nephrology team** on PD catheter placement should be prioritized, as it promotes continuity of care and **positively impacts** the efficacy of PD as a renal replacement therapy.