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INTRODUCTION

Peripherally inserted central catheters (PICCs) are widely used for prolonged intravenous therapy, but their maintenance may be challenging in patients with Catheter-Associated Skin Impairment (CASI). CASI includes skin damage caused by adhesives or securement devices, such as mechanical trauma, chemical irritation, erythema, blisters, erosion, moisture-related maceration, pressure, or friction. These injuries may increase pain, infection risk, and difficulty maintaining the catheter. Subcutaneous anchoring devices reduce adhesive use and protect fragile skin, offering greater safety and comfort for patients with CASI.

OBJECTIVE

To assess the use of a subcutaneous anchoring device for PICC securement in patients with CASI.

METHODS

Retrospective, observational, descriptive study conducted in a university hospital (Jan–Dec 2025). Included patients had documented CASI prior to subcutaneous anchoring and required a new PICC for therapy continuation. Analyzed variables: demographics, catheter characteristics, dwell time, and reasons for removal. Data were summarized using medians, interquartile ranges, and absolute/relative frequencies. Estudo registrado no Sistema de Documentação Científica do HCFMUSP – SDC nº 24246



Figure 1. SecurAcrath® 4F. Personal archive.

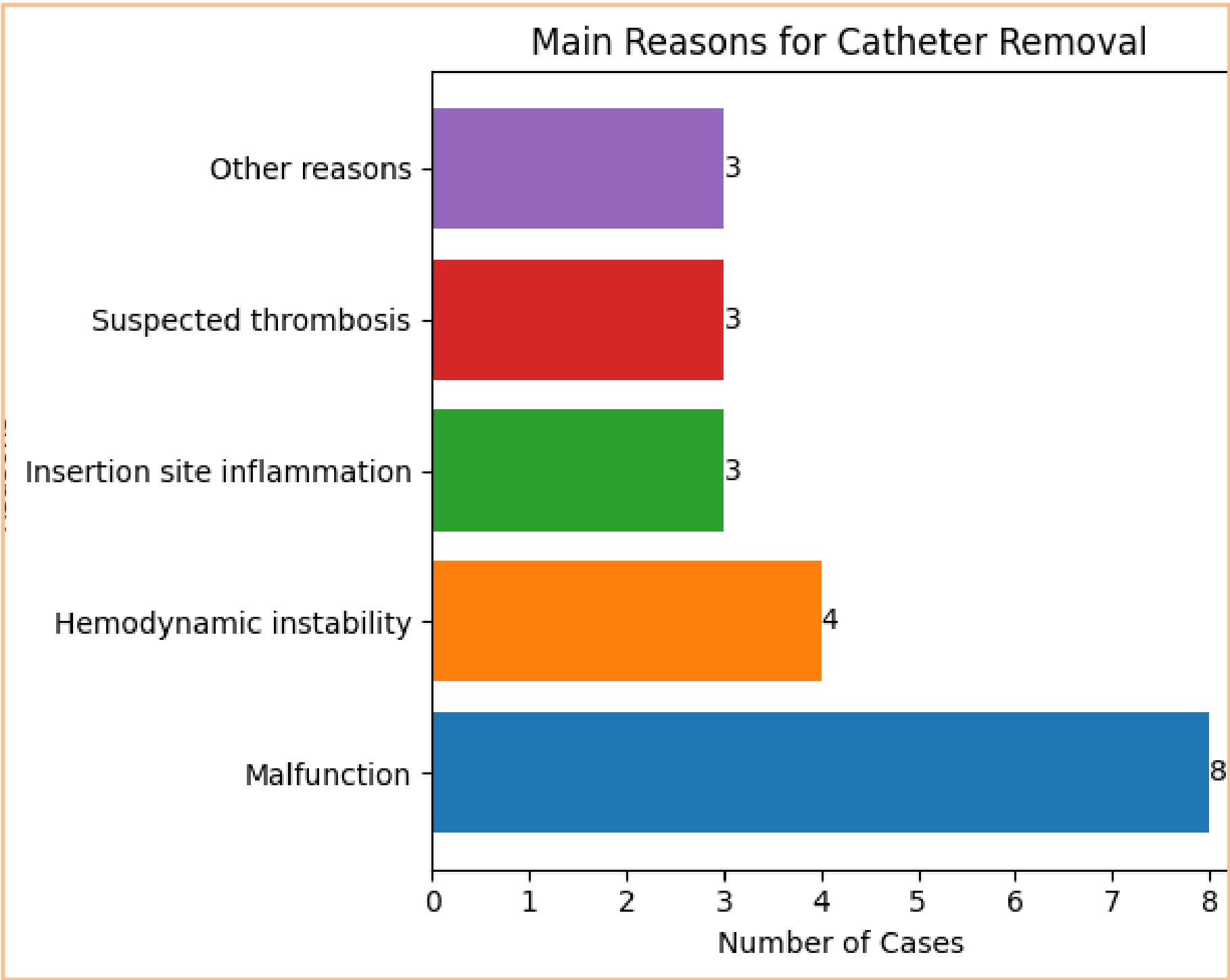
RESULTS

Catheter malfunction was the main reason for removal, followed by hemodynamic instability, site inflammation, and suspected thrombosis. Kaplan–Meier analysis showed early declines in catheter survival, followed by a plateau indicating longer dwell time among remaining catheters. A long tail suggested prolonged use in some cases.

Table 1. Dwell time by PICC size

PICC size	Median dwell time (days)
4 Fr	12
5 Fr	8

Figure 1. Reasons for PICC Removal



The main reason for PICC removal was catheter malfunction, followed by hemodynamic instability, insertion-site inflammation, and suspected thrombosis. Other causes were less frequent.

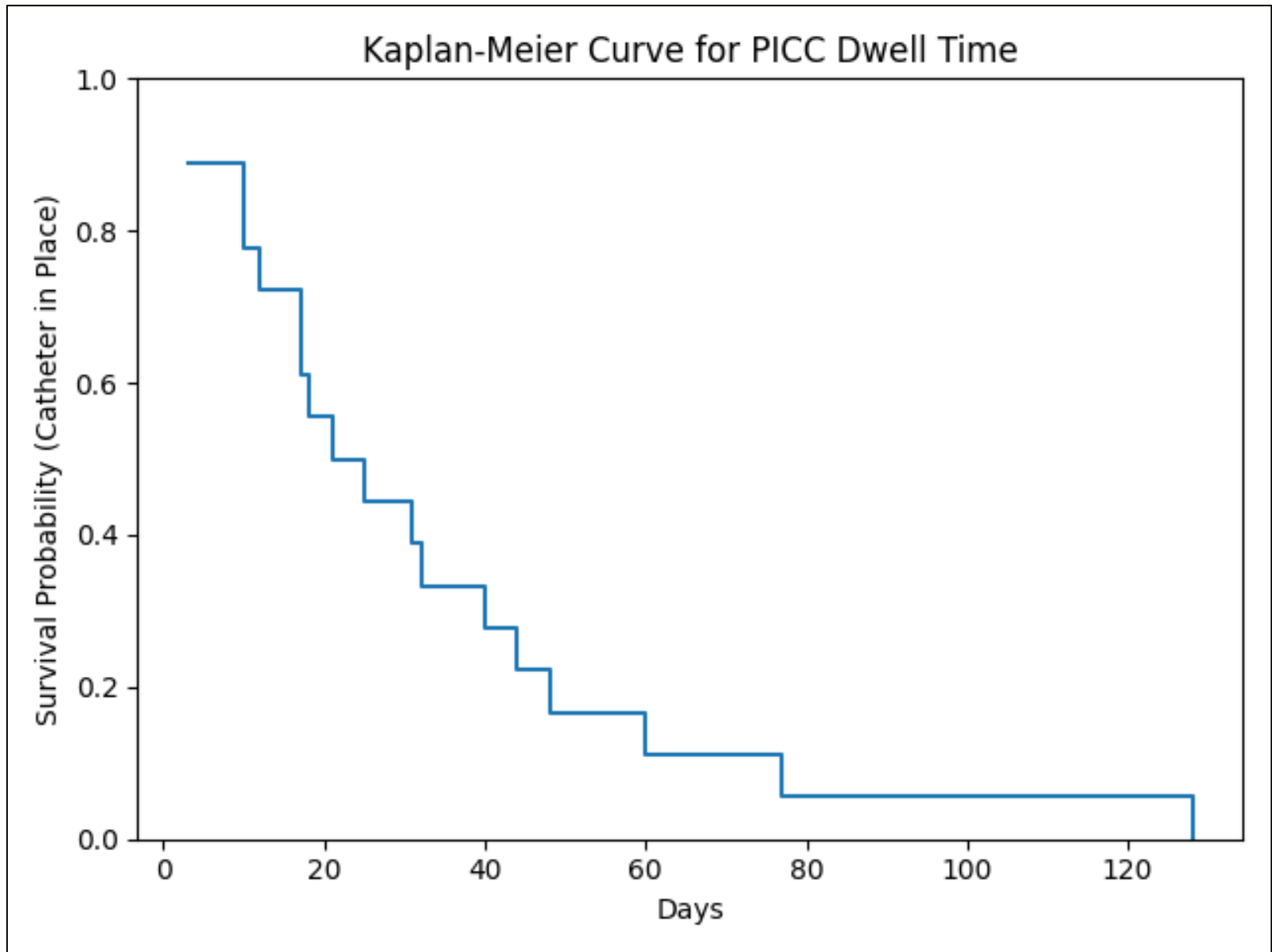


Figure 2. Kaplan–Meier Curve of PICC Dwell Time

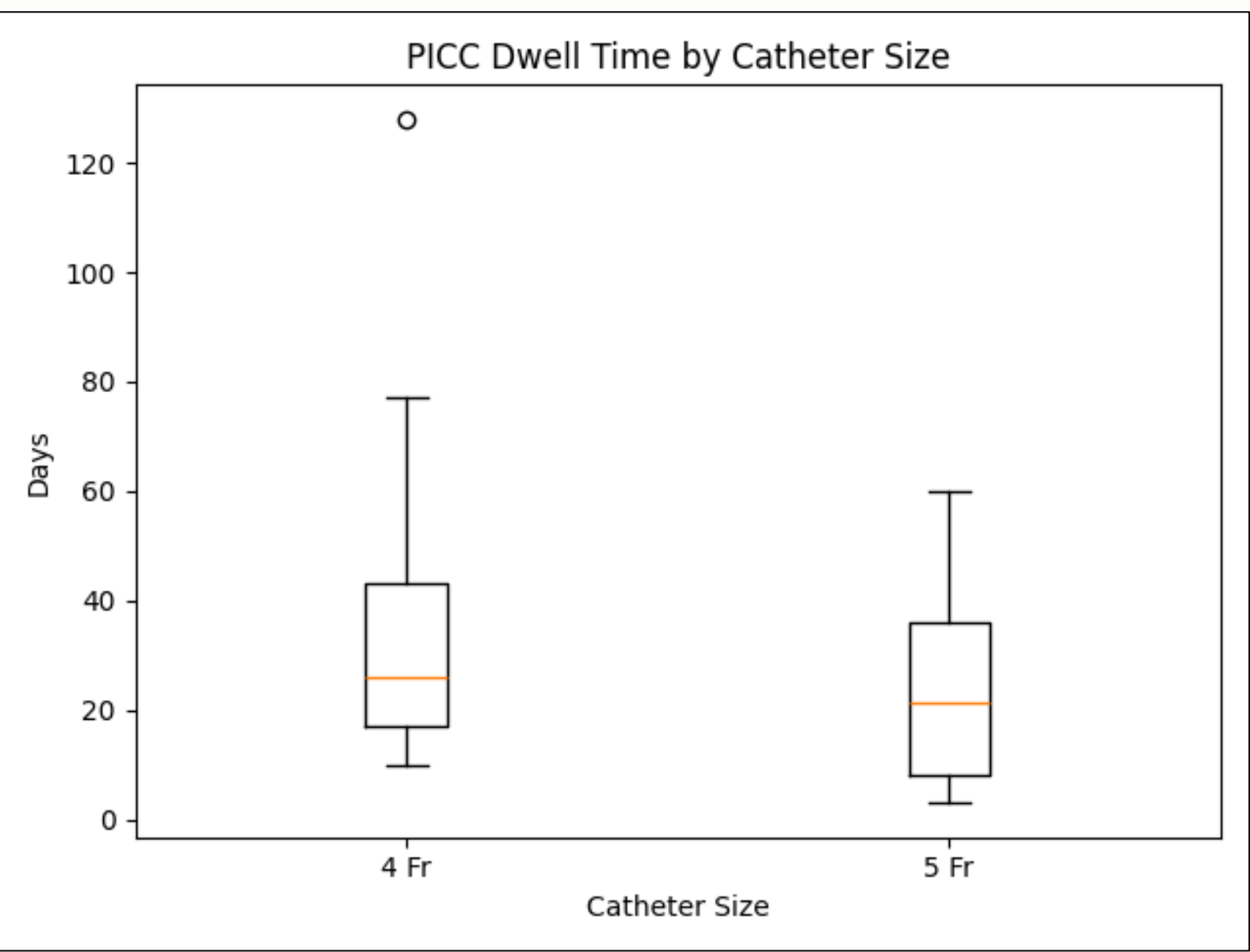


Figure 3. Comparison of PICC Dwell Time Between 4 Fr and 5 Fr Catheters

Kaplan–Meier analysis showed a gradual decline in catheter dwell time, with most events occurring shortly after insertion. A subsequent plateau suggested increased longevity among catheters that remained beyond the initial phase. The long tail of the curve indicated prolonged use in some patients.

Analysis by catheter size demonstrated that 4 Fr PICCs had longer median dwell times and greater variability compared to 5 Fr PICCs. Some 4 Fr catheters reached higher maximum dwell times, while 5 Fr catheters showed shorter and more homogeneous durations.

CONCLUSION

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