

Abstract:

Objectives: Peripherally inserted central catheters (PICCs) are central venous catheters commonly used for administration of chemotherapy, prolonged antibiotic treatment, or parenteral nutrition. It is advisable to use the PICC with the fewest lumens and the smallest possible diameter to reduce major complications. A pharmaceutical analysis and validation of PICC requests was designed to improve efficiency and patient safety. The aim of this study was to evaluate the impact of pharmaceutical interventions (PIs) by the clinical pharmacist in the PICC process.

Methods: A prospective pilot study was conducted in a French university hospital. Four categories of PIs were defined according to the different stages of the PICC insertion process: before insertion to validate with the physician the relevance of the request and the choice of PICC model (PI applicant); during insertion (PI installer); during usage by nurses for analysis of drug incompatibilities (PI user); and at hospital discharge for reassessment of the device maintenance (PI reassessment). Each PI applicant was designated a potential harm from 1 to 4, with a cut-off of 2 representing harm for the patient.

Results: Over 6 months, 277 requests were analysed and 297 PIs were completed (109 applicants, 98 installers, 84 users, and 6 PIs for reassessment). The acceptance rate by the physicians was 93.6%. 52% of the PI applicants had a potential harm of 2 or more. 5% of PICC requests were refused by the pharmacist due to an inappropriate choice of device. A total of 207 (74.7%) of the requests analysed by the clinical pharmacist led to insertion.

Conclusions: The implementation of a clinical pharmacy activity applied to PICC requests analysis and validation leads to improved patient care by securing the PICC circuit. This analysis demonstrates the beneficial role of the clinical pharmacist in PIs associated with medical devices.

Reference:

Buisson M, Leguelinel G, Bastide S, Beregi JP, Kinowski JM, Frandon J, Chasseigne V. A new clinical approach to improve the appropriate use of peripherally inserted central catheters: a prospective study. *Eur J Hosp Pharm.* 2021 Jan 7;ejhpharm-2020-002483. doi: 10.1136/ejhpharm-2020-002483. Epub ahead of print. PMID: 33414259.