

Status of Phlebitis in South Korean Hospitals: Focusing on Electronic Incident Reporting Systems

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Abstract. Peripheral venous catheterization (PVC) is the most commonly used invasive technique, and its importance to patient safety is increasing. And phlebitis is a common complication which can lead to increased costs and extended hospital stays. This study attempted to characterize the current status of phlebitis based on incident reports in the Korea Patient Safety Reporting & Learning System. This retrospective descriptive study analysed 259 phlebitis cases reported in that system from 1 July 2017 to 31 December 2019. The analysis results were summarized using numbers and percentages or means with standard deviations. Among the reported phlebitis cases, antibiotics and high-osmolarity fluids comprised 48.2% of the intravenous inflammatory drugs used. All reported cases presented blood-flow infections. Insufficient observation or management was the most common cause of phlebitis. It was found that interventions for phlebitis were inconsistent with those recommended in evidence-based guidelines. Recommendations for nurses to alleviate complications in PVC must be promoted and educated. It is necessary to provide feedback from the incident reports analysis.

Keywords. Phlebitis; Patient safety, Incident report

1. Introduction

Peripheral venous catheterization (PVC) is the most commonly used invasive medical technique in hospitals, and its importance to patient safety is increasing [1,2]. Phlebitis is a common complication associated with peripheral catheter use, which can lead to increased treatment costs and extended hospital stays [3]. Reducing incidents that endanger patient safety has become a major concern in healthcare today [3]. To achieve the goal of reducing medical errors, electronic incident reporting systems should be secure, easy to use and effective [4]. The Patient Safety Act was implemented in South Korea in July 2016. The enforcement of the associated protocols resulted in the

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development of a nation-level electronic reporting systems, with hospitals nationwide reporting patient safety incidents to this system. This study aimed to identify intravenous factors related to the occurrence, causes, post-discovery responses of phlebitis based on reports from electronic reporting systems in South Korea.

2. Methods

This retrospective descriptive study aimed at characterizing the status of phlebitis in South Korea. 259 phlebitis cases from hospitals throughout the country were selected from 1 July 2017 to 31 December 2019. The findings are summarized using numbers and percentages or mean±standard-deviation values.

3. Results

Among the reported phlebitis cases, 44.5% patients had inflammatory disease or tumours, and 25% of patients were infused with a hyperosmotic solution. All of the cases were found to have suffered from blood-flow infections. Insufficient observation or management was the most common cause of phlebitis. Cold packs were used as an intervention for phlebitis in the largest proportion of cases, followed by catheter removal.

4. Discussion and Conclusions

Awareness of appropriate PVC maintenance among nurses and their early identification of the risk factors can help to minimize potential adverse results. Providing nurses with training and support on recommendations for alleviating complications in PVC management is therefore required. These electronic reporting systems lack analysis and feedback on collected incident reports. It is necessary to further develop such learning system. Limitation is the retrospective analyses of phlebitis-related reports, which resulted in the study not being able to identify causal relationships between the risk factors and the occurrence.

The findings of this study support the periodic assessment of IV sites, application of aseptic procedures and compliance with standards. It is necessary to develop and apply educational programs about PVC management and infection control for nurses. Moreover, a learning system is needed for analysing incident reports and providing feedback from them.

References

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