

ANALYSING PHLEBITIS ASSOCIATED WITH THE USE OF PERIPHERAL SHORT CANNULAS IN AN EMERGENCY DEPARTMENT SETTING

Szunomár S¹, Guczogi G¹, Csákvári T¹, Szebeni-Kovács G¹, Madarász I¹, Takács K¹,
Boncz I¹, Pakai A², Berta G¹

1. University of Pécs, Pécs, Hungary
2. University of Pécs, Pécs, ZA, Hungary

OBJECTIVES

Our goal was to assess the impact of peripheral cannulas and vein scanner in the development of phlebitis.

METHODS

Our prospective, quantitative, and qualitative study conducted at the emergency department of Fejér County Szent György University Teaching Hospital of Hungary between January and March 2022, involving 100 peripheral cannulas (n=100). Our target population was patients who used a peripheral cannula for at least 24 hours. The insertion of the cannula was recorded on a self-made survey sheet. Characteristics for cannula care and removal were measured on a separate survey sheet. 24 cannulas were inserted with a Veinlite EMS PRO venous scanner.

Analysis was made with descriptive statistics (Table 1.) as well as χ^2 test and t test using MS Excel and IBM SPSS 25.0 (p≤0.05).

RESULTS

Cannulas used for ≥96 hours (n=16) and cannulas used for shorter periods (n=13) were not significantly more likely to have phlebitis (p=0.126). (Table 2.) There was a significant difference in the incidence of phlebitis between pre-hospital care (n=8) and cannulas placed in the emergency department (n=21) (p=0.033).

In the case of cannulas ensured by a venous scanner (n=8), the incidence of phlebitis did not decrease significantly compared to cannulas inserted without a venous scanner (n=21; p=0.612). (Table 3.) The incidence of phlebitis was not higher when the cannula was placed in the median cubital vein (n=10) versus other veins (n=19; p=0.632).

CONCLUSIONS

Our study confirmed that cannulas used for at least 96 hours did not increase the incidence of phlebitis.

The use of a venous scanner did not help to avoid complications.

Variable	Number		Variable	Number	
Total number	n=100		Experience of the person inserting the cannula (n=85)		
Gender			Practiced	73	86%
Woman	51	51%	Not practiced	12	14%
Man	49	49%	Use of venous scanner		
Triage category			Yes	24	24%
I.	2	7%	No	76	76%
II.	26	11%	Catheter usability		
III.	52	36%	Usable	87	87%
IV.	20	17%	Can not be used	13	13%
Catheter insertion			Development of phlebitis		
Prehospital care	15	15%	Yes	29	29%
Emergency Department	85	85%	No	71	71%

Table 1.
Descriptive analysis of the examined catheters (n=100)

Catheter usage time		Phlebitis	No phlebitis
< 95 hours	57	13	44
≥ 96 hours	43	16	27
Total	100	29	71

Table 2.
Comparison of the time of use of the cannula and the frequency of the development of phlebitis (n=100)

Use of venous scanner		Phlebitis	No phlebitis
Yes	24	8	16
No	76	21	55
Total	100	29	71

Table 3.
Use of a venous scanner and the incidence of phlebitis (n=100).

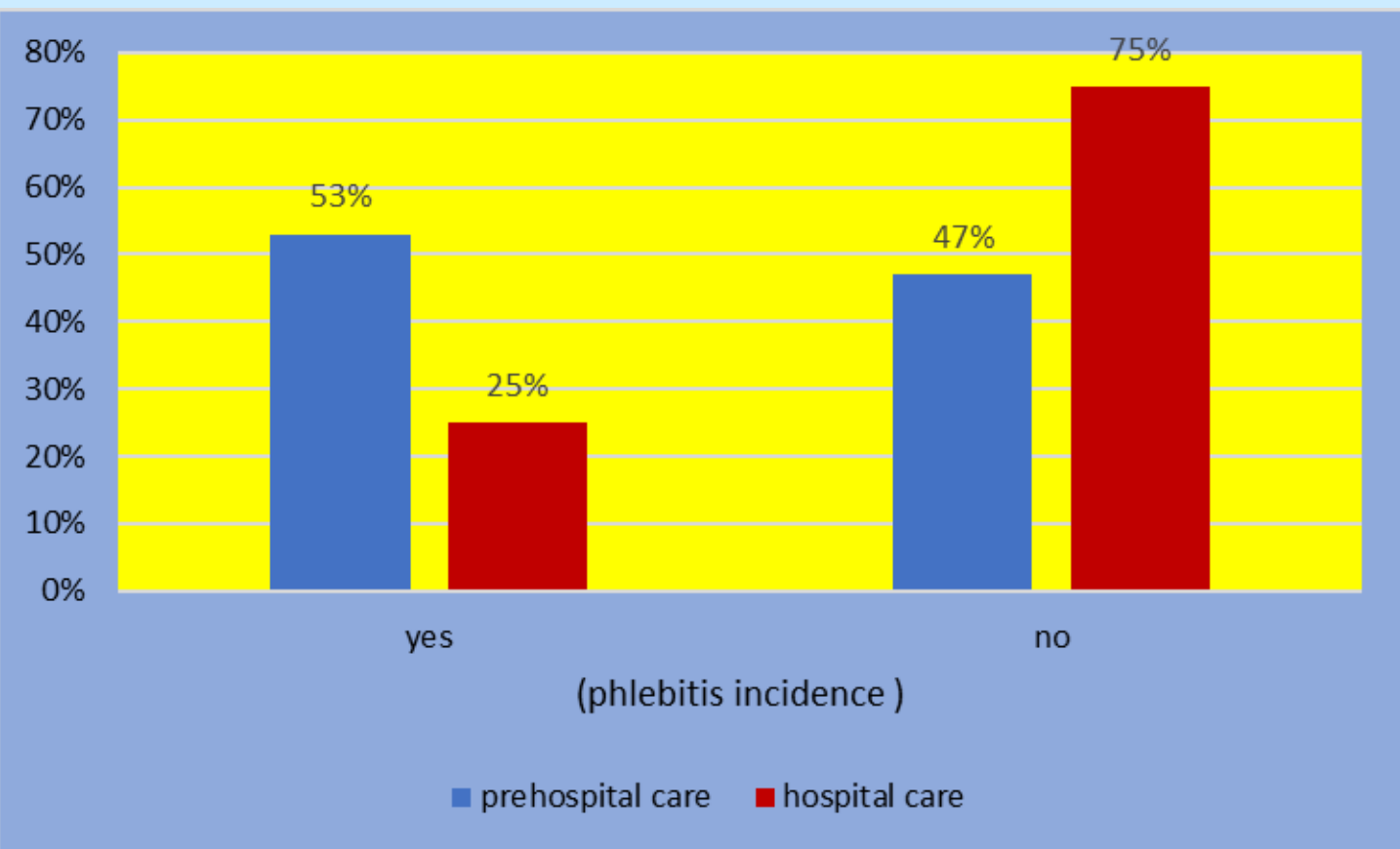


Figure 1.
Distribution of phlebitis incidence in cases of punctured venous cannulae in prehospital and hospital care (n=100)

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133

Corresponding author:

Dr. Imre BONCZ, MD, MSc, PhD, Habil
University of Pécs, Faculty of Health Sciences, Hungary
Institute for Health Insurance
E-mail: imre.boncz@etk.pte.hu

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