

The Endoscopy department as an alert to detect complications associated to peripheral venous catheters in patients admitted to a tertiary teaching hospital

MJ Pérez-Granda, F Guzmán, S Aguado, R Jiménez, J Orense, J. Rodríguez, P García-Santos, M Guembe.

Hospital General Universitario Gregorio Marañón, Madrid, Spain.

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INTRODUCTION

- The increased use of peripheral venous catheters (PVC) has led to an increase in **complications'** rate. Therefore, **surveillance** programs to prevent adverse effects related to the use of PVC are needed.
- Our **Endoscopy** department attends an average of 8 patients per day who need a PVC.
- Therefore, we **aimed** to prospectively follow up patients attending at the Endoscopy department to act as a watchtower for risk of PVC complications.

MATERIAL AND METHODS

- Ours is a **prospective** and **observational** study in which those patients attending for an endoscopy procedure were monitored until catheter withdrawal.
- The following PVC associated **complications** were analyzed: obstruction, phlebitis, redness, extravasation, pain, and infection.
- All catheter tips were sent for **culture** by roll-plate semiquantitative technique at the Microbiology laboratory. Clinical and microbiological data were also collected.

RESULTS

- We included a total of 46 patients who had inserted 50 PVC. Patients median (IQR) age was 70.0 (55.0-81.5) years and 58.7% were female. The median (IQR) hospital stay was 9.00 (6.00-14.25) days (**table 1**).
- Of the 50 PVC, the majority of them were inserted in the Emergency room (74.0%) and the median (IQR) catheter indwelling time was 5.00 (3.00-7.00) days. Phlebitis rate was 78.0%, which occurred mainly in those PVC inserted at the Emergency room (74.3%) (**table 2**).
- Regarding PVC tip colonization, there were 9 (18.0%) PVC which yielded a positive tip culture (**figure 1**).

Table 1. Patients' characteristics

Patients' characteristics	Total, N=46
Patient sex, N (%)	
Male	19 (41.3)
Female	27 (58.7)
Median (IQR) age, years	70.0 (55.0-81.5)
Underlying condition, N (%)	
Myocardial infarction	1 (2.2)
Central nervous system disease	5 (10.9)
Chronic obstructive pulmonary disease	4 (8.7)
Renal dysfunction	6 (13.0)
Diabetes mellitus	13 (28.3)
Peptic ulcer disease	7 (15.2)
Peripheral vascular disease	5 (10.9)
Malignancy	7 (15.2)
Mortality , N (%)	2 (4.3)

Figure 1. Microorganisms isolated in colonized catheters

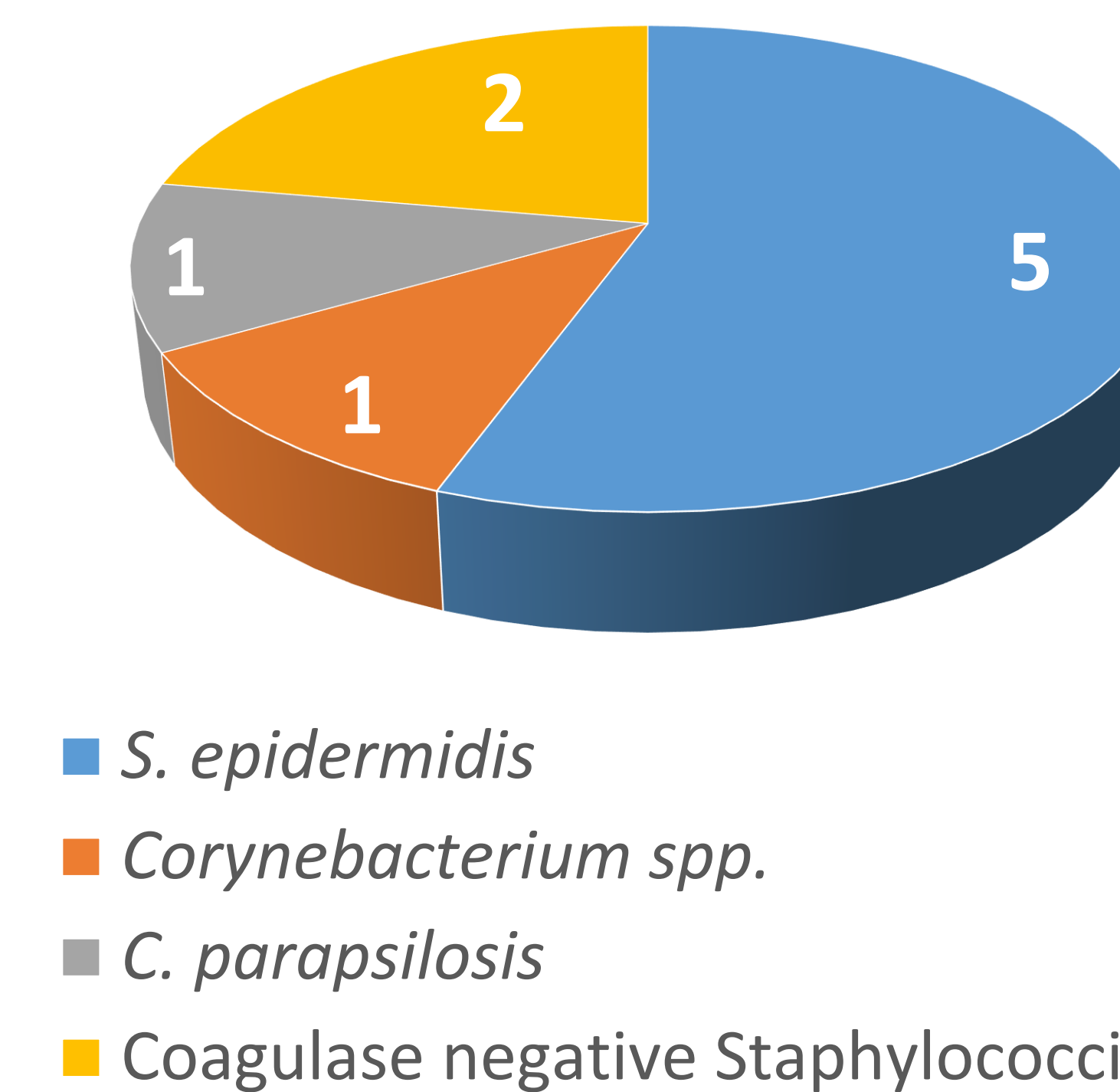


Table 2. Catheters' characteristics

PVCs' characteristics	Total, N=50
Insertion at Emergency Department, N (%)	37 (74.0)
Location, N (%)	
Hand	19 (38.0)
Forearm	16 (32.0)
Flexure	15 (30.0)
Size catheter (G), N (%)	
20	29 (58.0)
22	20 (40.0)
18	1 (2.0)
Use of catheter, N (%)	
Fluid	8 (16.0)
Antibiotics	18 (36.0)
Medication	13 (26.0)
Others	1 (2.0)
Reasons for catheter withdrawal, N (%)	
Obstruction	31 (62.0)
Phlebitis	39 (78.0)
Redness	43 (86.0)
Extravasation	2 (4.0)
Pain	38 (76.0)
Median (IQR) catheter indwelling time, days	5 (3-7)
Catheter tip colonization, N (%)	9 (18.0)
C-RBSI, N (%)	0 (0.0)

CONCLUSIONS

- The **Endoscopy department** has demonstrated to be an important **alert detector** for PVC complications.
- We found that those PVC inserted at the **Emergency** room were subject to a higher risk of phlebitis and/or colonization. Therefore, we recommend to **replace** those PVC inserted in the Emergency room within 48 hours if successful insertion cannot be guaranteed.