INTRODUCTION

The need of use of peripheral venous catheters (PVC) and the importance of a proper maintenance to avoid complications requires lock therapy of either heparin or saline as possible preventive approaches.

Heparin demonstrated its efficacy in central venous catheters, but there are still controversies of whether it is useful in peripheral venous catheters.

Our hypothesis was that PVC can be maintained either with lock of saline or heparin.

PURPOSE

To compare the efficacy of saline versus heparin in PVC lock for the prevention of phlebitis and catheter colonization in patients admitted to an Internal Medicine Department (IMD).

METHODS

We performed a clinical, prospective, controlled, open and randomized study with patients admitted to an IMD, who had at least one PVC, from October 2015 to October 2016.

Clinical outcome

- Phlebitis
- Catheter colonization rate
- PVC-RBSI
- Mortality
- Days of hospital stay
- Days of antimicrobial therapy

The study was registered in www.clinicaltrials.gov (NCT02970409).

RESULTS

We included a total of 374 PVCs from 273 patients, 200 (53.5%) of them received saline locks (group A) and 174 (46.5%) heparin locks (group B).

Patients’ main demographic characteristics were equally distributed among the two study groups (table).

The median (IQR) days of catheter indwelling time was 5 (3-8) for both groups (p=0.38). Phlebitis rate between catheters from Groups A and B was 21.8% and 15.4%, respectively (p=0.14).

PVC tip colonization rate was 11.0% and 8.6% in groups A and B, respectively (p=0.49).

There were only 2 episodes of PVC-RBSI that occurred in one patient detected in group A. Other clinical data are detailed in the table.

CONCLUSIONS

Our preliminary data of this ongoing study demonstrated that there were no statistically significant differences in phlebitis and colonization rates between PVCs that were locked either with saline or heparin.

Despite our hypothesis was that PVC can be maintained either with locks of saline or heparin, preliminary data showed a trend for better results when PVC were locked with heparin.

However, we continue to collect patients in the study in order to increase the sample size.