

ANALYSIS OF ADVERSE EVENTS RELATED TO THE ADMINISTRATION OF PERIPHERAL PARENTERAL NUTRITION IN ADULTS ADMITTED TO A SECOND LEVEL UNIVERSITY HOSPITAL

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Introduction

Reduction of adverse events related to venous catheters should be a priority in institutions to ensure patient safety. Osmolarity (OSM) suitable for infusion via peripheral venous catheter (PVC) is an unresolved issue that can cause complications. A common infusion with high OSM administered by PVC is Peripheral Parenteral Nutrition (PPN).

Objectives

To analyze adverse events (AE) in patients with PVC and PPN prescription.
To determine if PPN with lower OSM reduces adverse events.

Methodology

Retrospective observational study, over **three periods**:

I-No intervention (July 2014–December 2015)

II-Application of care bundle (January 2016–June 2017)

III- Application of care bundle PPN, improvement of care computer records, substitution of PPN for one more compatible with PVC in terms of OSM and pH (July 2017–December 2018).

Subjects: Adult wards. **Inclusion criteria:** admitted adults, carriers of PVC, with PPN prescription.

Variables: extracted from computerized medical reports, based on lists of patients with PPN prescription (sociodemographic, relative to admission, characteristics of PVC and PPN, AE).

Results

133 medical reports (MR) and 332 PVC were reviewed.

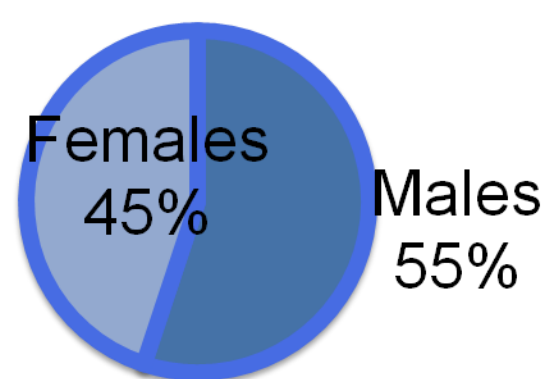
For periods:

I. 59 MR,164PVC (49.40%)

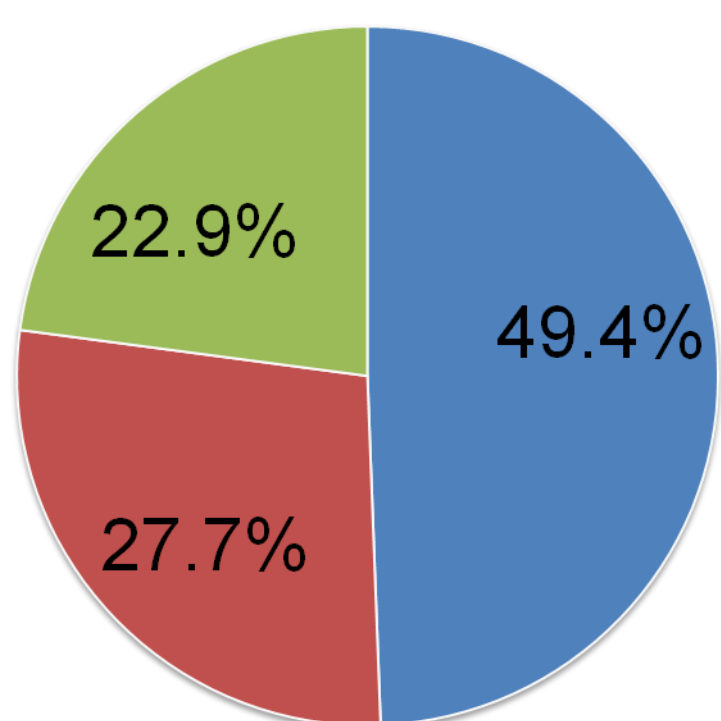
II. 42 MR, 92 PVC (27.70%)

III. 32 MR, 76 PVC (22.90%)

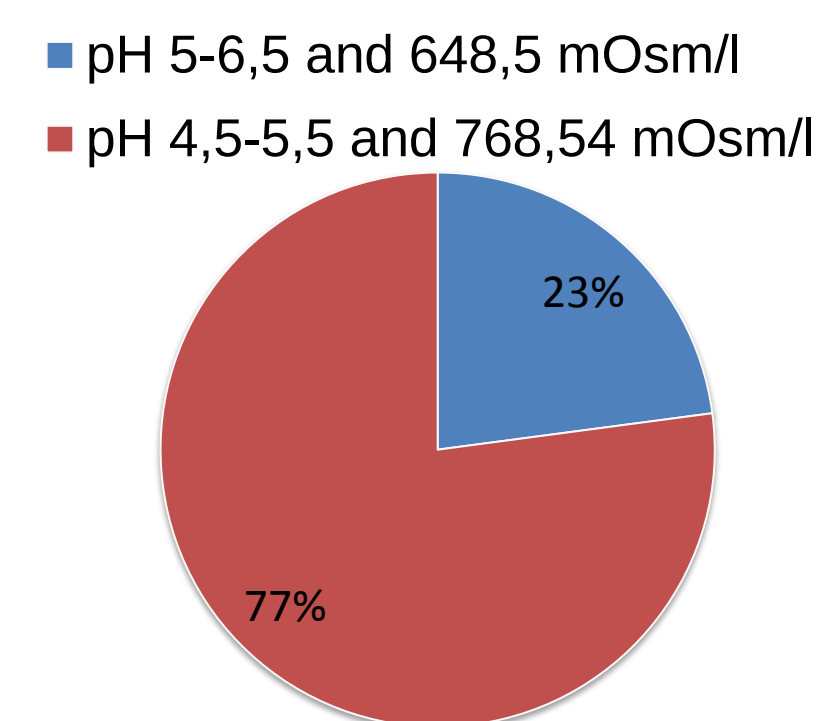
Gender distribution



% PVC analyzed N=332



% PVC with PPN administration



AE		PERIOD I	PERIOD II	PERIOD III	TOTAL
NO AE	N	41	36	25	102
	%	25 %	39,1%	32,9%	30,7%
IDENTIFIED AND PRESENT AE	N	77	40	42	159
	%	47%	43,5%	55,3%	47,9%
UNIDENTIFIED PRESENT AE	N	46	16	9	71
	%	28 %	17,4%	11,8%	21,4%
TOTAL AE	N	123	56	51	230
	%	75%	60,9%	67,1%	69,3%
TOTAL PVC	N	164	92	76	332
	%	100%	100%	100%	100%

69.3% of PVC presented AE.

THE MOST FREQUENT AE: PHLEBITIS

PHLEBITIS	PERIOD I	PERIOD II	PERIOD III	TOTAL
N	63	27	29	119
%	53,8%	35,5%	42,6%	45,6%

Phlebitis is the most frequent AE.
Distribution for analyzed periods
(*p<0.05, calculated with Pearson Chi-Square).

AGE/ PRESENCE OF AE p< 0.05*		PERIOD I	PERIOD II	PERIOD III
	N	164	92	76
	Mean	71,79	65,96	72,75
	Standard deviation	15,68	16,10	14,74
	P	0,013		
		I vs II	II vs III	I vs III
		0,011	0,008	0,745

Age appeared as a variable related to the presence/absence of AE.
Phlebitis decrease between I and II periods (* p< 0.05, Fisher's exact test). Comparing AE between Periods I and II, a significant reduction of a 14.1% was observed.
There were not statistical differences in AE and in reduction of AE between Periods II and III.

Discussion & Conclusions

- Phlebitis did not decrease with change of PPN.
- More knowledge about proper use of PPN is needed.
- Implementation of care bundles to reduce AE was effective.
- The notification of AE could favor the appearance of an optimal PPN for its administration through PVC, since the life expectancy of patients increases to the detriment of venous access.

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