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IMPACT OF PHARMACEUTICAL INTERVENTIONS IN PARENTERAL NUTRITION

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Background

The role of pharmacists on parenteral nutrition (PN) management differs between hospitals. In our case, pharmacists aren't limited to PN compounding and distribution. For more than 20 years, pharmacists have been supporting the calculation of patients' basal metabolism (PBM) and developed protocols for a gradual introduction of PN in order to avoid refeeding syndrome (RS).

Purpose

To evaluate pharmaceutical interventions (PI) in PN, its acceptance and impact.

Materials

Prospective study including patients on PN, March to September 2018.
Data were collected through communication with nurses/ physicians or from electronic records.
Prescriptions were daily electronically validated.
PBM was calculated by Harris-Benedict formula.
All interventions and relevant clinical data were recorded and analyzed.

Results

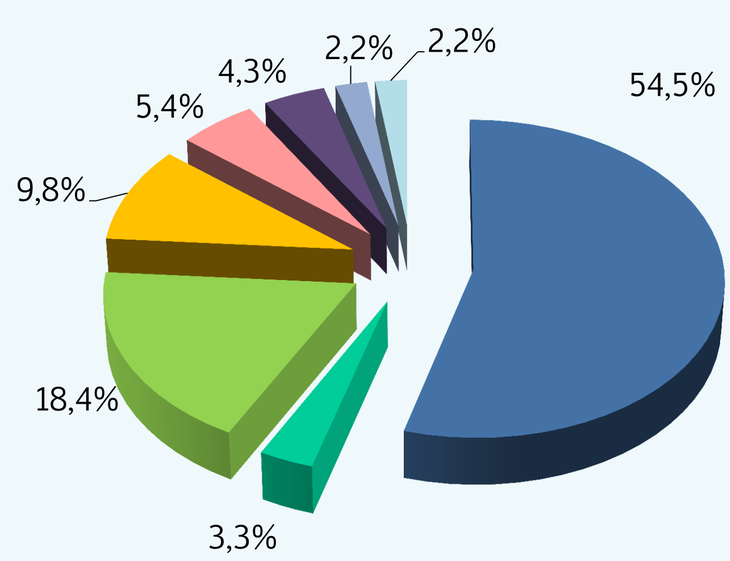
The study included **69 patients**

65,5 ± 16,6 years

68,1% 31,9%

66 Pharmaceutical Interventions in 126 PN prescriptions (52,3%)

Acceptance rate ***90,2%***



- PBM and rate infusion calculation
- Suggestions for special protocols due to the high risk of RS
- Prescribed bag adjustments
- Alerts to physician NP electronic prescription discontinuation
- Electrolytic imbalances corrections
- Scheduling of NP suspension days
- Hydric imbalances adjustments
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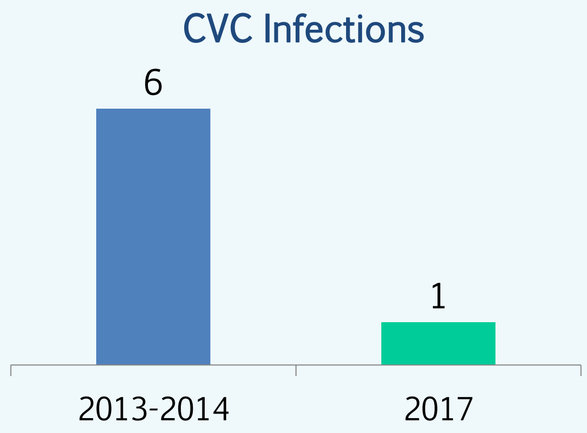
- Correction of prescribed lipid supplements

During the study, only 1 patient developed Refeeding Syndrome.

As shown in the graph, the alerts to physician NP electronic prescription discontinuation represented 9,8% of PI. In 2016-2017, the waste in supplemented bags with expired date resulted in a loss of **526€/year** on average. The reason for this waste was verbal NP discontinuation. These alerts together with a better communication with nursing teams resulted in **0 waste**.

All standard bags were supplemented in a laminar flow chamber. Only 1 patient presented central venous catheter (CVC) infection with positive blood culture. In the homologous period of 2013-2014, when the bags were supplemented in the wards, the number of CVC infections was 6.



Conclusion

Pharmacists are key elements with a recognized value of theirs interventions (90,2% acceptance rate) which improve the adequacy and safety of PN concerning metabolic and catheter-related complications.

Reference s

Giancarelli A, Davanos E. Evaluation of Nutrition Support Pharmacist Interventions. JPEN 2014; 39(4):476-81