

Abstract:

INTRODUCTION: Malnutrition is associated with an increased risk of complications in hospitalized patients, and parenteral nutrition (PN) is used when oral or enteral feeding is not possible. This study aimed at analyzing associations between PN characteristics and infectious complications in hospitalized patients.

MATERIAL AND METHODS: This was a retrospective cohort study conducted in a tertiary care university hospital. Data from consecutive adult patients submitted to PN (January 2016 to December 2017; ICU and ward) were reviewed by means of an electronic database. Patient's clinical characteristics, PN prescription and catheter insertion procedure data were extracted and analyzed. The main outcome was the development of central line-associated bloodstream infection (CLABSI). The secondary outcomes were other infectious complications and mortality, as well as factors associated with CLABSI.

RESULTS: We analyzed 165 patients and 247 catheters used for parenteral nutrition infusion. The CLABSI rate was 6.47 per 1000 catheter-days. In the univariable analysis, CLABSI was associated with longer hospitalization time, longer PN time, longer catheter time, catheter insertion performed by a surgeon or a surgical resident, and procedures performed outside the ICU. In an extended time-dependent Cox regression, no variable was associated with a higher risk of CLABSI, and additional PN days did not increase the rate of CLABSI. The overall mortality rate was 24.8%. Only the patients' comorbidity index was associated with death in the multivariable analysis.

DISCUSSION: In our study, patients who needed PN had an overall CLABSI rate of 6.47 per 1000 catheter-days. These outcomes were not associated with PN and catheter characteristics studied after adjustment for catheter time. The overall mortality rate was 24.8% and it was not associated with PN in multivariable analyses, only with Charlson comorbidity index.

Reference:

Comerlato, P.H., Stefani, J., Viana, M.V. and Viana, L.V. (2020) Infectious complications associated with parenteral nutrition in intensive care unit and non-intensive care unit patients. *The Brazilian Journal of Infectious Diseases*. March 20th. doi: 10.1016/j.bjid.2020.02.002. (Epub ahead of print).

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