



Intravenous literature: Ocón Bretón, M.J., Mañas Martínez, A.B., Medrano Navarro, A.L., García García, B. and Gimeno Orna, J.A. (2013) Risk factors for catheter-related bloodstream infection in non-critical patients with total parenteral nutrition. *Nutrición Hospitalaria*. 28(3), p.878-883. .

#### Abstract:

**Introduction:** Catheter-related bloodstream infection (CRBSI) is one of the most important complications in patients with a central venous catheter (CVC), due to its association with increased mortality, morbidity and health care cost. The administration of total parenteral nutrition (TPN) is considered a CRBSI risk factor. The aim of our study was to determine the incidence rate and risk factors of CRBSI in patients with TPN that were hospitalized at the medical-surgical wards.

**Methods:** This is a prospective observational study in non-critical patients who received TPN and were admitted at our hospital from January 2010 to November 2011. The clinical end point was the CRBSI. CRBSI incidence rate was calculated from episodes by every 1000 CVC-day. CRBSI independent risk factors were obtained from logistic regression analysis.

**Results:** A total of 331 patients were prescribed TPN during our study. The mean time of catheterization was 12.4 (DE 8.7) days and the mean TPN duration was 10.4 (DE 8.3) days. 47 cases of CRBSI were recorded, with an incidence rate of 11.4/1,000 CVC-day and of 13.7/1,000 NPT-day. Risk factors for CRBSI on univariate analysis included duration of

catheterization more than 20 days (OR = 2.48; IC 95%: 1.16-5.26), TPN duration more than 2 weeks (OR= 4.63; IC 95%: 2.16-9.90) and the presence of fistulas (OR = 3.08; IC 95%: 1.24-7.63). At multivariate analysis, TPN duration (OR for a duration more than 14 days= 4.9; IC 95%: 2.2-10.9;  $p < 0.0001$ ) was the only independent risk factor for CRBSI.

Conclusion: In non-critical adult patients hospitalized at the medical-surgical wards, we have demonstrated that duration of TPN infusion increases the CRBSI risk. This risk increase is especially remarkable, being multiplied by 5, with a duration superior to 2 weeks.



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