

In the EPaNIC RCT (N=4,640), postponing the administration of parenteral nutrition (PN) to beyond one week in the intensive care unit (ICU) (late-PN) reduced the number of ICU-acquired infections and the costs for antimicrobial drugs as compared with initiation of PN within 24–48h of admission (early-PN)” De Vlieger et al (2018).

Abstract:

Objective: In the EPaNIC RCT (N=4,640), postponing the administration of parenteral nutrition (PN) to beyond one week in the intensive care unit (ICU) (late-PN) reduced the number of ICU-acquired infections and the costs for antimicrobial drugs as compared with initiation of PN within 24–48h of admission (early-PN). In a secondary analysis, we hypothesise that late-PN reduces the odds to acquire an invasive fungal infection (IFI) in the ICU.

Methods: The impact of late-PN (N=2,328) versus early-PN (N=2,312) on acquired IFI and on the likelihood to acquire an IFI over time was assessed in univariable and multivariable analyses. Subsequently, we performed multivariable analyses to assess the effect of the mean total daily administered calories from admission until day 3, day 5 and day 7 on the likelihood over time of acquiring an IFI.

Results: Fewer late-PN patients acquired an IFI as compared to early-PN patients (77/2,328 versus 112/2,312) ($p=.008$). After adjusting for risk factors, the odds to acquire an IFI and the likelihood of acquiring an IFI at any time were lower in late-PN (adjusted odds ratio 0.66, 95% confidence interval (CI) 0.48–0.90, $p=.009$; adjusted hazard ratio (HR_{adj}) 0.70, 95% CI 0.52–0.93, $p=.02$). Larger caloric amounts from admission until day 7 were associated with a higher likelihood to acquire an IFI over time (HR_{adj} 1.09, 95% CI 1.02–1.16, $p=.009$).

Conclusion: Postponing PN to beyond one week and smaller caloric amounts until day 7 in the ICU reduced ICU-acquired IFIs and the likelihood to develop an IFI over time.

Reference:

De Vlieger, G., Ingels, C., Wouters, P.J., Debaveye, Y., Vanhorebeek, I., Wauters, J., Wilmer, A., Casaer, M.P. and Van den Berghe, G. (2018) The impact of supplemental parenteral nutrition early during critical illness on invasive fungal infections: a secondary analysis of the EPaNIC randomised controlled trial. *Clinical Microbiology and Infection*. June 2nd. .

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