

Commercial vs. Natural Food-based Tube Feeding on Diarrhea Incidence in Critically Ill Cardiac Surgery Patients (P12-030-19)

Dario Gregori,¹ Adam Fabiani,¹ Gianfranco Sanson,² and Giulia Lorenzoni¹

¹University of Padova; and ²School of Nursing, Department of Medicine, Surgery and Health Sciences

Objectives: Diarrhea has negative consequences on health outcomes of critically ill patients administered with enteral feeding. Diarrhea pathogenesis in these patients is associated with several factors, including the administration of *commercial enteral* formulas providing nutrients and food without the natural food matrix. However, the potential benefits of natural food-based tube feeding on gastrointestinal complications have not been well established yet. The present study aimed at examining the effect of natural-based tube feeding on diarrhea incidence in critically ill cardiac surgery patients.

Methods: Retrospective medical chart review of adult patients admitted postoperatively to a Cardiac Surgery Intensive Care Unit and administered with tube feeding. Two cohorts of patients were identified, one administered with blenderized natural food (BNF) and the other one with standard commercial formula (SCF). In the study setting, there was a switch from SCF to BNF starting from 01/01/2015. The two

cohorts were identified according to such a time criterion. Time to the first event of diarrhea, defined as the presence of loose or watery stool - at least 3-time per day - according to the Bristol Stool Chart type, was the primary study outcome. A crude comparison of the time to the first event of diarrhea between SCF and BNF cohorts was carried out using Kaplan-Meier curves. Differences in survival rates between groups were assessed with the Log-Rank test. The adjusted comparison was performed by fitting a multivariable Cox Proportional-Hazards (PH) model.

Results: Two-hundred and ten patients were considered in the study (99 in the BNF cohort). No significant differences were identified in patients' baseline characteristics. At crude analysis, the likelihood of diarrhea occurrence was significantly lower for subjects in the BNF compared to those in the SCF cohort (p-value 0.017). At adjusted analysis, BNF almost halved the risk of experiencing diarrhea (Hazard Ratio of diarrhea in BNF patients compared to SCF ones of 0.554, 95% CI: 0.327–0.938, p-value 0.02).

Conclusions: In a population of postoperative cardiac surgery patients, a BNF diet was found to reduce the risk of diarrhea significantly. The present study provides new insights into the nutritional management of critically ill patients.

Funding Sources: Unit of Biostatistics, Epidemiology and Public Health, University of Padova, Padova, Italy.