Increased protein delivery is associated with a significant improvement in mortality\(^1\)

Inadequate delivery of enteral nutrition is common in critically ill patients, causing patients to fail meeting their overall nutritional requirements. Traditionally, focus has been on delivering adequate calories, therefore protein delivery varied depending on the formula ordered, often impacting outcomes.\(^2\)

Increased protein provision is associated with decreased mortality and time on the ventilator.\(^2\)\(^-\)\(^4\)

In a recent retrospective chart review of more than 2,000 patient encounters, patients who received Peptamen® Intense VHP formula received significantly more protein than when other enteral nutrition formulas were used (p<0.0001).\(^5\)

The Peptamen® Intense VHP group also received lower amounts of carbohydrate.

A significant difference in 30-day mortality was shown in the group that received high protein (p=0.0007).\(^1\)

Peptamen® Intense VHP formula contains the highest amount of protein available in a peptide-based tube-feeding formula, 37% of kcals from protein.

References:

Unless otherwise noted, all trademarks are owned by Société des Produits Nestlé S.A., Vevey, Switzerland. ©2019 Nestlé Health Science. All rights reserved.

PPTM-14722-0919
Increased Protein Delivery within a Hypocaloric Protocol May Be Associated with Lower 30-day Mortality in Critically Ill Patients

Authors: J. Ochoa Gautier;* R. Hussein; A. Berger;

1Geisinger Health Systems, Danville, PA

Objective:
Evaluate the potential effect that increasing protein delivery could have on clinical outcomes.

Background:
Contemporary nutrition leaders suggest that increasing protein delivery >1.2g/kgIBW/day while decreasing non-protein calories to 70% of basal energy expenditure may be associated with improved clinical outcomes in critical illness.

Formulas are available to support this goal of feeding more protein and less calories, containing approximately 37% protein and 29% carbohydrate.

Methods:

Population:
- Retrospective analysis of existing electronic medical records (EMR) of patients admitted to the intensive care units (ICUs) at the Geisinger Health care system.

Data Collection:
- Demographics (age, gender, admitting diagnosis and BMI)
- LOS, readmission rates, in-hospital mortality, 30-day mortality and mortality upon readmission
- All forms of nutrition delivery for first seven days of ICU stay:
  - Estimated nutrition needs
  - Enteral prescription
  - Calories and protein delivered

Statistics:
- Logistic regression analysis was used to determine correlation between protein delivered and clinical outcomes.

Results:
- 2000 medical encounters with 12,321 ICU days collected and analyzed.
- Most frequently encountered diagnosis included sepsis or septic shock, acute and/or chronic respiratory failure, cardiovascular diseases, stroke and cerebral vascular disease.
- Overall mortality during hospitalization was 7.3%; 30-day mortality was 15.6%.
- Median hospital length of stay (LOS) was 13.6 days, 6.9 day ICU LOS; 4 days of invasive mechanical ventilation.
- 30-day readmission rate among patients discharged alive was 19.3%.

CONCLUSION:
- A significant improvement in mortality is observed with increased protein delivery while decreasing carbohydrate loads.
- Higher protein, along with lower carbohydrate intake appears to generate the best outcomes for critically ill patients.
- Prospective randomized trials are warranted to establish causality.

Abstract presented at ISICEM 2019, Brussels, Belgium.