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

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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 29% carbohydrate.

OBJECTIVES
- Evaluate the potential effect that increasing protein delivery could have on clinical outcomes.

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%.

Abstract presented at ISICEM 2019, Brussels, Belgium.

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