delivered (71.1±28.3) was less than the accepted average of 80%, a statistically significant difference of 8.9 (95% CI, 0.84 to 16.92; t(49) = -2.22, p= 0.031). Of the 167 patient days, 89 days (52%) had minimal/no stoppage, or only stopped for routine nursing care. The most common reasons for stopping a patient's tube feeding were high residuals (n=18) and surgeries/imaging (n=22). High residuals resulted in patients receiving an average of 44.3% of goal volume. An average of 55% of tube feeding volume was delivered in patients who underwent surgeries/procedures.
Conclusions: At Northwest Hospital, ICU patients in this study received an average of 71.1±28.3% of prescribed tube feedings. Overall, although average percent tube feeding delivered was below 80%, on the majority of patients days (n=103, 62%), patients received adequate nutrition via tube feeding. The results of this study showed a large variability in the adequacy of tube feeding delivery depending on the clinical picture of each patient. Future research should investigate if a volume based protocol may improve tube feeding delivery in this population due to its ability to adjust for tube feeding interruptions on a daily basis. The most common reasons for tube feeding interruptions were surgeries/imaging and high gastric residual volume which resulted in 55% and 44% of prescribed energy and protein delivery, respectively.

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M25 - A Retrospective Study Comparing Volumetric Based Feeding to Rate Controlled Feeding of ICU Patient Conditions and Outcomes

Tara L. Ulrich, RD, LDN, CNSC[2]; Tawnya M. Vernon, BA[1]; Chet A. Morrison, MD, FACS, FCCM[1]
[1]Trauma and Acute Care Services, Penn Medicine Lancaster General Health, Lancaster, PA; [2]Inpatient Clinical Nutrition, Penn Medicine Lancaster General Health, Lancaster, PA

Purpose: It has been observed that rate-control feeding often leads to permissive underfeeding of ICU patients. In contrast, volumetric based feeding (VBF) protocols have begun to be implemented to feed critical care individuals in order to more effectively deliver the proper daily amount of nutrients and energy. VBF has consistently shown to significantly increase the number of proteins and total amount of calories received, decreased length of stay, and lower mortality rates. This type of enteral feeding has also displayed no signs of increased harm to the safety of the patient or an increase in adverse symptoms such as nausea or vomiting. In an attempt to better the care of critical care patients, Lancaster General Hospital (LGH) began integrating VBF as a method of enteral feeding in the ICU beginning April 2017. Although most of the data preceding the implementation at LGH has shown the effectiveness of VBF, it has been observed that there is a lack of utilization of this technique. There has been little exploration on the criteria that a patient must meet in order to receive nutrients via VBF opposed to being fed at an hourly rate. Additionally, since VBF has not been highly popularized, many healthcare professionals are unable to implement this protocol due to lack of information and familiarity with the method. We hypothesize that VBF patients will be younger, with shorter lengths of stay and lower readmission rates and that there will be significant barriers to implementation in a hospital that is not an academic tertiary referral center.
Methods: All patients admitted to the Penn Medicine Lancaster General Health ICU from May 2017 – May 2018 were included. A patient's enteral feeding method was determined either by his or her physician or as recommended by the dietitian and noted within the patient chart. VBF edibility was defined as patients without contraindication to enteral nutrition with absence of: AAA, UI anastomosis, surgical jejunostomy, impending intubation, refeeding syndrome risk, and hemodynamic instability. Volumetric based fed patients will be compared to those rate control fed. Criteria for comparison between the two patient groups will include: age, sex, length of stay, readmission, and mortality.
Results: A total of 287 patients met inclusion criteria, of which 129 (44.9%) were appropriate for VBF. Of those 129 patients, only 20 received VBF. Patients who received VBF were younger (55.1 years vs. 64.0 years, p=0.022). Of the non-VBF patients 61.3% were male, while that population represented 75% of VBF patients. The mean length of stay of VBF patients was 19.9 (IQR:13-25) while that of non-VBF patients was 20.1 days (IQR:3-68). Of those who did not receive VBF, 54.4% were hemodynamically unstable. No statistically significant difference was noted in LOS, readmission or mortality between both

groups.
Conclusions: Results suggest that VBF is recommended for younger patients. The clinical indications to recommend VBF are not well defined in the literature and as a result patients who may otherwise be worthy candidates are not receiving VBF. Further studies that identify more comprehensive eligibility criteria for enteral patients to receive VBF may identify differences in LOS, readmission, mortality and other factors associated with VBF.

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POSTER OF DISTINCTION

M26 - Narrowing the Protein Deficit Gap in Critically Ill Patients Using a Very High Protein Enteral Formula

Michele M. ApSimon, MSc., RD[1]; Carrie Johnston, MSc., RD[2,3]; Barb Winder, BSc.., RD[1]; Bethany Hopkins, MEd., RD[4]
[1]Critical Care, Hamilton Health Sciences, Hamilton, Canada; [2]Trauma, Hamilton Health Sciences, Hamilton, Canada; [3]Burn Unit, Hamilton Health Sciences, Hamilton, Canada; [4]Medical Affairs, Nestle Nutrition Canada, Canada, Canada

Purpose: Protein deficits in critically ill patients have been associated with longer ICU stays and increased mortality in patients at nutrition risk. Current view suggests that if protein goals are met, meeting full energy targets may be less important and help decrease deleterious effects of overfeeding. Current guidelines for protein provision to ICU patients range from 1.2 – 2.5 g/kg/d. There remains a large gap between protein doses recommended by clinicians and what is actually delivered, with patients typically receiving 55% of prescribed protein. Recent ICU nutrition trials have failed to reach protein targets >1.5 g/kg/d. Some critical care literature suggests that high protein targets are unattainable with enteral nutrition (EN) alone and that supplementing with intra venous amino acids (PN) should be considered. We proposed that a very high protein (VHP) EN formula could provide patients with adequate protein, without overfeeding energy in the first week of critical illness. The primary objective of this study was to assess the protein intake of critically ill patients before and after availability of a VHP EN formula in our ICU. Secondary objectives were to assess energy intake and EN tolerance.
Methods: This was a retrospective study of medical-surgical ICU patients receiving exclusive EN (no PN) for a minimum of five days during the first week of ICU admission. Twenty subjects received standard EN (prior to availability of the VHP EN formula in June 2016), and 20 subjects received the VHP EN formula (1 kcal/mL, 37% protein). Protein and energy prescriptions, daily protein and energy intake (including modular EN protein supplements and lipid-based medication), gastrointestinal tolerance, and feeding interruptions were recorded.
Results: Protein prescribed was higher in the VHP group versus standard EN group [p=0.003; 135.5 g/d ± 22.9 (96-190) vs. 111.4 g/d ± 25 (82 – 180) respectively]. Total protein received for the first five days of exclusive EN was significantly higher in the VHP group versus standard [p=0.0002; 112.2 g/d ± 27.8 (35.9-157.1) vs. 81.7 g/day ± 16.7 (42.2 – 101.5)]. Expressed as g/kg/d the VHP group achieved 1.46 g/kg/d ± 0.35 (0.58-2.05) compared to standard EN 1.1 g/kg/d ± 0.24 (0.52 – 1.66). Modular EN protein was used in the standard EN group only (21.6 g/d ± 3.4). Energy prescribed was similar between the VHP and standard groups [p=0.101; 1696 kcal/d ± 402 (1111 – 2453) vs. 1893 kcal/d ± 341 (1368 – 2700) respectively]. Energy intake was not significantly different between groups [p=0.901; 1520 kcal/d ± 346 (956-2045) or 17.1 ± 4.3 (10.9 – 29.3) VPH group vs. 1506 ± 380 kcal/d (680 - 2041) or 19 kcal/kg ± 4.3 (8.3-26.4) standard group]. There were no significant differences between groups in propofol use (p=0.138), EN tolerance (p=0.065) or feeding interruptions (p=0.336).
Conclusions: EN feeding with a VHP formula in ICU patients resulted in higher protein intakes without increasing energy intake in the first five days of exclusive EN.

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