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CHICAGO AREA SOCIETY FOR PARENTERAL AND ENTERAL NUTRITION
A Chapter of the American Society for Parenteral and Enteral Nutrition

THE CASPEN CONNECTION

Volume 6, Issue 3 Fall 2014

The CASPEN Connection is the quarterly newsletter of The Chicago Area Society for Parenteral and Enteral Nutrition—A Chapter of the American Society for Parenteral and Enteral Nutrition.

Inside This Issue

FROM THE PRESIDENT'S DESK

Greetings CASPEN members!

Thank you for your continued interest and involvement in CASPEN! Our members drive our organization and we are so happy to be one of the largest chapters of ASPEN.

Are you interested in becoming more involved? Do you have ideas that you want to share? Please start thinking about becoming a member on the CASPEN board. Look for our "Call for Nominations" this fall for the 2015-2016 term.

We are very excited about our upcoming Fall Seminar to be held on November 15th transitioning the nutrition support patient from the hospital to home. In this era of new reformed healthcare, and with changing guidelines for insurance coverage, we have so much to learn about this topic. Patients being discharged to the home setting are much sicker and on more complex therapies than in the past. The clinician, in both the hospital and the home setting, is one of the most important people involved in the discharge process. We look forward to seeing you there!

Also, start thinking about getting your friends and co-workers involved in CASPEN. Our board is in the process of creating an incentive for the member with the most "referrals". Look for more information in our next newsletter. And please remember to visit our microsite regularly for updates, program information, job postings, etc.

Sincerely,

Kelly Kinnare

UPCOMING EVENTS

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Nutrition Support: Transition from Hospital to Home

Speakers & Topics

Beth Wall: Adult Nutrition Support inpatient & outpatient management
Robyn Felten: Pediatric Nutrition Support inpatient & outpatient management
Coram: Tube Feeding Shouldn't Hurt: Managing Enteral Tube Site Complications
Walgreens: Insurance Coverage, Qualification for Home Nutrition Support

Event Details

Saturday November 15, 2014
Check in 7:30AM
8:00AM- 12PM
Elmhurst Memorial Hospital
Breakfast and a snack will be provided
This program has been approved for 4 CPEUs

Fee:

CASPEN Members: Free
Non-CASPEN: $20.00 (due at the door)
Students: $5.00 (due at the door)

Please RSVP to:
CaspenBoard@gmail.com
By October 20, 2014

Sponsored by:

Walgreens Infusion Services
CORAM CVS/specialty infusion services
Abbott Nutrition
AMT Applied Medical Technology, Inc.

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REVIEW OF LITERATURE:

Low Energy Intake During the First Week in an Emergency Intensive Care Unit is Associated with Reduced Duration of Mechanical Ventilation in Critically Ill, Underweight Patients.

Ichimaru S, Fujiwara H, Amagai T, Atsumi T. Low energy intake during the first week in an emergency intensive care unit is associated with reduced duration of mechanical ventilation in critically ill, underweight patients: a single-center retrospective chart review. *Nutr Clin Pract*. 2014;29(3):368-379.

Background:

Patients admitted to intensive care units (ICUs) in a state of critical illness have an increased risk of insulin resistance, hypercatabolism, and other metabolic alterations attributed to the stress response. Although early research suggested that energy deficit may be detrimental, the current body of literature suggests energy restriction among patients admitted to intensive care units (ICUs) to avoid exacerbating the inflammatory response. However, there is a gap in the research regarding the optimal approach to administer nutrition support in underweight patients, as they are less widely studied in Western countries.

Objectives:

The objectives of the study were to determine the effect of energy intake on length of ICU stay and all-cause mortality in critically ill, underweight emergency ICU (EICU) patients, and determine the effect of energy intake on morbidity in critically ill, underweight EICU patients.

Methods:

Consecutive patients admitted to an 80-bed EICU at a tertiary teaching hospital between August 2011 to December 2012 were included if met the following criteria: BMI <20.0 kg/m^2, mechanical ventilation within 48 hours of admission, and >72 hours EICU stay. Exclusion criteria were <18 years of age, pregnant or lactating patients, those readmitted to the EICU during hospital stays, mask ventilation, patients withdrawn from treatment during the first week, and those with BMI ≥ 20 kg/m^2 or unavailable BMI data.

Researchers retrospectively collected demographic, clinical, and nutrition data from the medical record, including Acute Physiology and Chronic Health Evaluation II (APACHE II) score, initial Sequential Organ Failure Assessment score (I-SOFA), EICU diagnosis, average daily intake of protein and energy during the first week of EICU admission. Patients were stratified into 4 groups based on I-SOFA score (M for moderately ill and S for severely ill) and average daily intake.

M-1: I-SOFA ≤ 8 and energy intake <16 kcal/kg/day

M-2: I-SOFA ≤8 and energy intake ≥16 kcal/kg/day

S-1: I-SOFA >8 and energy intake <16 kcal/kg/day

S-2: I-SOFA >8 and energy intake ≥16 kcal/kg/day

Results:

A total of 51 of the 971 patients met exclusion criteria and were included in the analysis. Despite the uneven distribution of patients in each group (M-1: 10, M-2: 9, S-1: 10, S-2: 22), there were no significant differences in demographic data between groups. The patients had a median age of 69.0 years and an average BMI of 17.9 kg/m^2; 49% (n=25) of patients enrolled in the study were diagnosed with neurologic disorder, and 29% had subarachnoid hemorrhage.

There were no significant differences in all-cause mortality or LOS between the M-1 and M-2 groups or S-1 and S-2 groups; however, duration of mechanical ventilation was significantly shorter among those in M-1 compared to M-2 (2.7 [1.0-5.7] versus 9.2 [4.2-17.4] days, p=0.40), and S-1 compared to S-2 (3.1 [0.7-6.0] versus 8.8 [6.1-23.1] days, p=0.006). Although fewer patients in S-1 compared to S-2 underwent tracheostomy during EICU stay (0% versus 50%, p=0.005) or hospital stay (20% versus 32%, p=0.002), after adjusting for potential confounders, energy intake was independently associated only with duration of mechanical ventilation.

Discussion:

Evidence exists that both supports and refutes the practice of early feeding and feeding to adequacy in ICU patients. The existing research was largely conducted on patients with BMIs in the normal or overweight categories (considered to be at lower risk of malnutrition compared to those with BMI <18.5 kg/m^2), and is difficult to apply to the underweight population. Based on outcomes of early, observational studies, early administration of enteral nutrition

(Continued on page 4)

with advancement to goal energy delivery has been considered beneficial in critically ill patients in efforts to prevent infectious complications, organ failure and reduce LOS. More recent intervention trials have shed concerning light on the potential complications associated with higher energy delivery. In contrast to the current study, most patients included in the available literature are younger and overweight or obese. The current study suggests that, even with varying degrees of acute illness, increased energy and protein administration does not increase the risk of mortality among older patients with normal or underweight status (BMI <20 kg/m^2), but *is* correlated with an increased duration of mechanical ventilation. Researchers suggest that differences may be attributable to lower availability of protein and fat stores among underweight patients. Additionally, much of the available research has been among the medical and surgical ICU population, where the current study was conducted in an emergency ICU with a heavy neurology and stroke population, therefore, results, though important, may not be generalizable to the ICU population as a whole. Researchers highlight the importance of conducting prospective studies to evaluate optimal energy delivery and morbidity and mortality outcomes.

Limitations:

The current study was conducted in Japan, which makes it difficult to generalize globally. The sample is small (n=51) and slightly older (69.0 years) than ICU populations typically reported. Additionally, BMI was the only criteria used to assess nutritional status. If those deemed malnourished based on weight loss, muscle wasting or poor nutrition status prior to admission had been included in the analysis, outcomes may have been different. Research in larger and more diverse populations is needed to determine a more definitive approach to feeding underweight ICU patients.

Conclusion:

Lower energy intake was associated with significantly shorter duration of mechanical ventilation, but not mortality among patients with BMI <20.0 kg/m^2 during the first week of an emergency ICU stay among moderately and severely ill patients.

Thank you for contributing , Molly!

Reviewer Bio

Molly DePrenger is a graduate student and dietetic intern at Rush University Medical Center and completed her undergraduate work at Iowa State University. Her interests include nutrition support, gastrointestinal surgery and disease. In her free time, Molly enjoys reading, running, and relaxing with a movie.

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MUSINGS:

1. What is the protocol for initiation of nutrition at your institution?
2. Based on recent literature suggesting either little benefit or worse outcomes when goal energy is delivered during the first 7 days of critical illness, have you or would you consider low-rate feeding for the first week?
3. Does your professional opinion vary based on patient BMI?
4. Should RDs take a conservative approach when providing nutrition support recommendations in ICU patients?

CLINICIAN SPOTLIGHT

ANDREW SCHMILLEN, R.D., L.D.N.

Title: Neonatal Dietitian

Place of Employment: Northwestern Medicine

Place of Residency: Chicago, Illinois (Lakeview)

Hometown: Peoria, Illinois

# of years a ASPEN / CASPEN member: 1

If other advanced degrees were obtained, what were they in and where did you receive your degree from? Internship: Edward Hines, Jr., V. A. Hospital (Maywood, Illinois)

Did you complete any other additional training or hold any other certifications? Additional training at Children's National Medical Center (Washington, D.C.) and Texas Children's Hospital (Houston, Texas)

How long have you been practicing nutrition support: 25 years

Do you practice nutrition support in any specialty areas? Neonatal ICU at Northwestern Medicine

Are there any other unique job attributes (or your career path) you would like to discuss? If so, please describe. One unique attribute of my position is that the dietitians in the NICU at Northwestern Medicine write all of the TPN orders.

Please describe any past experiences in nutrition support : I have practiced in the NICU at NorthShore University HealthSystem - Evanston Hospital (Evanston, Illinois) and at the Children's Hospital of Illinois part of OSF St. Francis Medical Center (Peoria, Illinois).

What do you like best about practicing nutrition support? Because my infant patients remain in our care for extended periods of time, I enjoy not only watching their growth and improvement, but also building relationships with their parents and families.

Are there any exciting new areas to explore or projects you are working on? Participating in the PENUT Trial (a randomized, multi-center, placebo-controlled trial designed to test the efficacy of erythropoietin for the neuroprotection of extremely premature infants) and participating in and collecting data for the Illinois Perinatal Quality Collaborative (IL PQC) which has a nutritional focus this year. We are also exploring the use of Prolacta Cream as a human milk fortifier in the NICU.

What are your hobbies? I enjoy running and sports of all kinds, spending time with family and friends, and raising my two pugs Jack and Millie. I also love to travel - especially on cruises. Favorite cruise locations include the Baltic and Mediterranean Seas.

Who in your life inspires you/has inspired you the most and why? My parents has also inspired and motivated me because of their kindness, patience, professionalism and attention to detail. My father is a retired wood pattern maker and my mother is a retired pediatric nurse. They both still live in the Peoria area.

Tell us anything else interesting about you that you would like to share: I also do long-term care consulting and have been working at Christian Buehler Nursing Home in Peoria, Illinois one weekend a month for the past 15 years. It's a long commute but I get to see family and friends while I am in the area. I guess I really do see patients on both ends of the life span!

Don't forget to e-mail your nominations to caspenboard@gmail.com now or in response to the "Call for Nominations Request" e-mail coming soon.

The upcoming term will be a 1-year commitment, beginning January 1st, 2015 and ending December 31st, 2015. If you know someone who would be perfect for the BOD or would like to nominate yourself, email caspenboard@gmail.com.

☐ Voting will take place November/December.

☐ If you do not wish to take on a leadership role, consider joining one of our committees: Publication, Membership, or Program Committee

☐ We look forward to seeing a few new faces!

Introducing… CASPEN's new Microsite!

Please visit: http://community.nutritioncare.org/ChicagoChapter/home

Currently a work in progress…

We hope to provide you with a one stop spot for information on: **CASPEN committee updates, upcoming CASPEN events, recent CASPEN events, ASPEN news, discussion groups, and more…**

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We are always looking for volunteers to help with our committees—email caspenboard@gmail.com if interested!