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Nutrition therapy for obese ICU patients with special consideration for the reference of protein in tune with ASPEN 2016 versus ESPEN 2015

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Background: Hypocaloric, high protein feeding regimens have been proposed for feeding obese critically ill patients. While both actual and ideal Body Weight (BW) have been proposed, neither is an accurate reflection of Total Body Protein (TBP) content in obese individuals. Dosing protein based on Lean Body Mass (LBM), which is highly correlated with TBP, might be the most appropriate method for calculating protein needs as defined by actual body composition. We are trying to make a meeting point to determine protein needs to use in hypocaloric feeding for obese patients based on ASPEN which use Ideal Body Weight (IBW) in tune with ESPEN which use LBM

Methods: A 39 years old obese female had been admitted to intensive care unit due to congestive heart failure. Actual BW is 160kg (body height:160cm ; BMI:62,5 kg/m²). Patient had low albumin level (3.2g/dl), low potassium, low lymphocyte count (1700/µL) <leukocyte 13560/µL>, normal gastrointestinal function. Energy calculation was based on ASPEN 2016 guideline is 1250kcal via oral, protein was based on ESPEN, in which lean protein need (LPN) is 1.8g/kg standard LBM BW <36.9kg> = 66g, and adjusted protein need is LPN x LBM ratio = 66g x 1.67 = 110g (ASPEN 2.1g/kg IBW<52.4kg> = 110g), both are equal 35% from macronutrient composition. Carbohydrate and fat composition are 45% (141g) and 20% (28g) respectively, with NPC:N = 45:1 (according to 30-50:1 ratio in ASPEN). The nutritional therapy is including 25.8 g of branched chain amino acids.

Results: Patient was carried out feeding regimens completely, marked by 100% food recall. After 7 days, there were some improvements from clinical and laboratory values, marked by weaning from bilevel positive airway pressure machine, handgrip dynamometry power increment(30kg to 36kg), and elevation of lymphocyte count in conjunction with leukocyte that decreased toward normal.

Conclusions: Optimal protein support for obese patient is an important value, either ASPEN or ESPEN method can be used interchangeably.

Biography

Chrissander is a 3rd year clinical nutrition resident in Hasanuddin University, Makassar. His interest is in nutrition field, beside of clinical nutrition, also included sports nutrition, related to muscle development, body weight reduction and also as an fitness enthusiast. Formerly work as a general practitioner in Mayapada Internal Hospital, South Jakarta, Indonesia.

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