

Adequate Dietary Intake to Improve Outcome of Urine: Urea Nitrogen with Balance Nitrogen and Total Lymphocyte Count

Authors : Mardiana Madjid, Nurpudji Astuti Taslim, Suryani As'ad, Haerani Rasyid, Agussalim Bukhari

Abstract : The high level of Urine Urea Nitrogen (UUN) indicates hypercatabolism occurs in hospitalized patients. High levels of Total Lymphocyte Count (TLC) indicates the immune system condition, adequate wound healing, and limit complication. Adequate dietary intake affects to decrease of hypercatabolism status in treated patient's hospitals. Nitrogen Balance (NB) is simply the difference between nitrogen (N_2) intake and output. If more N_2 intake than output, then positive NB or anabolic will occur. This study aims to evaluate the effect of dietary intake in influencing balance nitrogen and total lymphocyte count. Method: A total of 43 patients admitted to a Wahidin Sudirohusodo Hospital between 2018 and 2019 for 10 days' treats are included. The inclusion criteria were patients who were treated for 10 days and receives food from the hospital orally. Patients did not experience gastrointestinal disorders such as vomiting and diarrhea and experience impair kidney function and liver function and expressed approval to participate in this study. During hospitalization, food intake, UUN, albumin serum, balance nitrogen, and TLC was assessed twice on day 1 and day 10. There is no Physician Clinical Nutritional intervention to correct food intake. UUN is 24 hours of urine collected on the second day after admission and the tenth day. Statistical analysis uses SPSS 24 with observational cohort methods. Result: The Forty-three participants completed the follow-up (27 men and 18 women). The age of fewer than 4 years is 22 people, 45 to 60 years is 16 people, and over 60 years is 4 people. The result of the study on day 1 obtained SGA score A, SGA score B, SGA score C are 8, 32, 3 until day 10 are 8, 31, 4, respectively. According to 24h dietary recalls, the energy intake during observation was from 522.5 ± 400.4 to 1011.9 ± 545.1 kcal/day $P < 0.05$, protein intake from 20.07 ± 17.2 to 40.3 ± 27.3 g/day $P < 0.05$, carbohydrates from 92.5 ± 71.6 to 184.8 ± 87.4 g/day, and fat from 5.5 ± 3.86 to 13.9 ± 13.9 g/day. The UUN during the observation was from 6.6 ± 7.3 to 5.5 ± 3.9 g/day, TLC decreased from 1622.9 ± 897.2 to $1319.9 \pm 636.3/\text{mm}^3$ value target $1800/\text{mm}^3$, albumin serum from 3.07 ± 0.76 to 2.9 ± 0.57 g/day, and BN from -7.5 ± 7.2 to -3.1 ± 4.86 . Conclusion: The high level of UUN needs to correct adequate dietary intake to improve NB and TLC status on hospitalized patients.

Keywords : adequate dietary intake, balance nitrogen, total lymphocyte count, urine urea nitrogen

Conference Title : ICNSD 2020 : International Conference on Nutrition Science and Dietetics

Conference Location : Bali, Indonesia

Conference Dates : July 16-17, 2020