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A cumulative energy deficit during 7 days is not a predictor of severity and outcomes of hospital – acquired pressure ulcer in older adult patients

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Background: Pressure ulcer (PU) is a financial and physio-psychological burden in hospital settings, especially in the super-aged society.

Aim: To examine an association between energy deficit in the 7 days before PU development and the severity of hospital-acquired PU developed after admission in older adult patients.

Methods: The study was conducted under a retrospective observational design in all consecutive patients admitted to a single general hospital between July 2014 and June 2016. Data collection: 1) demographics domain- sex, age, body weight, body mass index (BMI), Charlson comorbidity index (CCI), 2) PU domain- severity of PU scored by DESIGN-R score, NPUAP score, 3) blood test domain- hemoglobin (Hb), total lymphocyte count (TLC), serum albumin (Alb), C-reactive protein (CRP), Prognostic Nutritional Index (PNI), 4) nutrition domain- cumulative and daily energy and protein intakes 7 days before and 7 or 14 days after PU development, 5) outcome domain- survival status, length of hospital stay in hospital, length of days between admission and PU development. Then the follows were compared: Method 1- blood test data on admission and at development of pressure ulcers; Method 2- all data for subjects between energy sufficient and deficit groups; Method 3- energy intake between mild (NPUAP stage I, II) and severe (stage III, IV).

Results: Method 1: Serum Hb level ($p < 0.001$), serum Alb level ($p < 0.001$), and PNI ($p < 0.001$) at PU development were significantly lower than that on admission. Method 2: no parameters showed a significant difference in energy sufficient and deficit group. Method 3: no significant differences in energy intake during 7 days before PU development and time-related clinical outcomes between mild and severe PU (Table).

Conclusion: The results of the present study suggest that nutrition support for energy sufficiency during the 7 days before PU development had no impact on the PU severity and time-related outcomes.

Biography

Chiho Kai has expertise in Clinical Nutrition. She is doing her Nutrition Management and Nutritional Guidance at general hospital based on Japanese Nutritionist License. On the other hand, she is conducting research on Clinical Nutrition at a graduate school. Her study investigated how nutrient intake before and after the onset of pressure contributes in prevention and cure of pressure ulcer.

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