

A diet enriched in eicosapentanoic acid, gamma-linolenic acid and antioxidants in the prevention of new pressure ulcer formation in critically ill patients with acute lung injury: A randomized, prospective, controlled study.

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BACKGROUND & AIMS: Pressure ulcers are a significant burden in the ICU. Many factors have found to be associated with pressure ulcers including malnutrition. While it has been recognized that high protein diets decrease the incidence of pressure ulcers, the role of lipids as well as vitamins and antioxidants remains unclear. The aim of this study was to evaluate the preventive and healing effects of an enteral diet enriched in eicosapentanoic acid (EPA) and gamma-linolenic acid (GLA) and vitamins (vitamins A, C and E) on pressure ulcers. **METHODS:** One hundred patients with acute lung injury were included in a larger study evaluating the effects of lipids and vitamins on respiratory function. A secondary end point, occurrence and healing of pressure ulcers was included. A diet enriched in lipids (EPA, GLA) and vitamins (vitamins A, C and E) was compared with a diet similar in macronutrient composition. The occurrence and healing of pressure ulcers was evaluated according to the National Pressure Ulcer Panel. Nutritional assessment included calorie intake, resting energy expenditure, levels of serum prealbumin, albumin, vitamins A and E, zinc and copper. C-reactive protein and procalcitonin were also measured. **RESULTS:** Patient's age, severity of disease and gender distribution were similar in the two groups. The study group had a higher body mass index. At baseline, the pressure ulcer score was similar in the two groups. A significantly lower rate of occurrence of new pressure ulcers was observed in the study group compared to the control group ($p < 0.05$). No difference was observed in the healing of existing pressure ulcers in the study as opposed to the control group. There was no significant difference in the nutritional parameters between the two groups. **CONCLUSIONS:** A diet enriched with EPA, GLA and vitamins A, C and E is associated with a significantly lower occurrence of new pressure ulcers in critically ill patients with acute lung injury.