

POSTER PRESENTATION

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Are energy and protein targets being met in the ICU?

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Background

Multiple barriers exist to achieving energy and protein targets in the critically ill. Elke et al [1] used data from ICU's worldwide which estimated average energy delivery of only 1057 kcals/day and protein delivery 49 g/d (0.7 g/kg/d). Weijs et al [2] demonstrated that meeting energy and protein requirements is associated with decreased mortality. Local data from 2012 found an average delivery of 1424 kCal and 56.8 g protein/d (0.75 g/kg/d) once at target rate (TR) and that 40% of patients were taking > 5 days to reach TR. As a result alterations were made to the ICU feeding protocol; 1. GRV threshold increased to 300 ml, 2. Daily monitoring of energy and protein provision, 3. Introduction of protein modules.

Objectives

To assess energy and protein delivery for enterally fed patients in a 16 bed ICU following implementation of modifications to protocol, and comparison with historical controls.

Methods

A retrospective, case control study over 2 weeks in the ICU. Energy and protein intakes recorded from admission up until day 20; or until discharge from critical care, removal of the enteral feeding tube or death.

Results

20 patients, 11 male + 9 female, aged 23-84 yrs. Mean weight 80 kg + BMI 27.8 kg/m² (19-41 kg/m²). 79% of patients had EN initiated within 48 hrs and 95% within 72 hrs. Mean time to TR was 4 days. 19% of patients took > 5 days to reach TR. Mean daily energy delivery 1428 kCal + 93% energy requirements met. Mean daily

protein delivery 64.7 g (0.86 g/kg/d) + 71% of protein requirements met.

Conclusions

Increasing GRV threshold improved the number of patients reaching TR in 5 days by 50%... Energy delivery was similar to 2012 but higher than those reported by Elke et al [1]. However % of energy requirements met once at TR increased by 4% from 2012. Protein delivery increased by 8 g protein /d (13%) and was 15.7 g (22%) higher than stated by Elke et al. The use of protein modules and daily monitoring improves energy and protein delivery. However, protein is still falling short of the recommended 1.5 g/kg/day [3] due to non-feed sources of energy and high requirements in the obese; ≥ 2 -2.5 g/kg IBW (ASPEN, 2009).

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