

Intensive care survival not linked to calorie intake

October 23 2018, by Andrew Spence



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Increasing the calorie intake for an intensive care patient does not

improve their chances of survival, according to a new Australian study.

Presented on Monday afternoon at the European Society of Intensive Care Medicine (ESICM) congress in Paris, the study involved almost 4000 [patients](#) across 46 [intensive care](#) units (ICUs) in Australia and New Zealand.

The study was led by the University of Adelaide and the Royal Adelaide and The Queen Elizabeth hospitals in South Australia.

Optimal calorie delivery during critical illness is uncertain and patients typically receive only 50-60 per cent of recommended requirements.

The research team conducted a multicenter, double-blind, randomised trial in mechanically ventilated adults comparing energy-dense (1.5 kcal/ml) with routine (1.0 kcal/ml) enteral nutrition at a dose of 1 ml per kg ideal body weight per hour, commencing at or within 12 hours of the initiation of nutrition support and continuing for up to 28 days while in the ICU.

All patients were fed using liquid through a tube into their stomach, as per normal practice.

There were 3957 patients included in the analysis (1.5 kcal/ml group, 1971 patients; 1.0 kcal/ml group, 1986). The volume of nutrition delivered was similar; however, patients assigned to 1.5 kcal/ml received a mean 1863 kcal/day vs. 1262 kcal/day in the 1.0 kcal/ml group (mean difference 601 kcal/day).

By day 90, 523 of 1948 patients (26.8 percent) assigned to the 1.5 kcal/ml group had died vs. 505 of 1966 patients (25.7 percent) in the 1.0 kcal/ml group, hence there was no difference between the groups in terms of survival.

Results were similar for seven pre-defined subgroups. Increased calorie delivery did not affect survival time, receipt of organ support, number of days alive and out of the ICU and hospital or free of organ support, or the incidence of infective complications or adverse events.

This is the first study in the ICU population to successfully deliver guideline-recommended calories by the enteral route.

Led by Professor Marianne Chapman, Royal Adelaide Hospital and University of Adelaide, the authors challenged the current guidelines.

"Existing guidelines recommend an [energy intake](#) of 25-30 kcal/kg/day, to match expenditure —similar to that provided in the increased calorie group in our study," the authors stated.

"Our findings do not support this recommendation.

"Increasing energy intake with the administration of energy-dense enteral nutrition did not affect survival in critically ill adults."

The next stage in the research is to analyse data of functional outcomes in the surviving patients at six months.

"It is possible that increased calorie delivery does not improve survival but does improve recovery," the authors concluded.

"We await this analysis with interest and thus cannot make comments about changes in recommendations until we have seen these results."

Provided by The Lead

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