

Inadequate intake during the post-ICU ward stay

Rationale

Nutritional intake during the post-Intensive Care Unit (ICU) ward stay has reported to be inadequate, and formal guidelines are lacking. To close the gap with individualized support, detailed understanding of intake patterns is needed.

Methods

A prospective observational cohort study was conducted in post-ICU critically ill patients in general wards. Nutritional intake was assessed daily using intake composition data and post-meal digital photography. The primary outcome was energy and protein adequacy. Secondary outcomes were readmission and mortality rates comparing patients meeting protein requirements or not.

Results

In total, 48 patients were enrolled, and 484 observational days analyzed, including 1,681 photos. Overall mean caloric and protein adequacy for all intake groups was 82.3% (SD 18.3) and 83.1% (SD 19.8). Only 53.7% reached overall >90% of protein targets during their entire post-ICU ward stay. The lowest intake was seen in the oral intake only group (protein adequacy median 75.5% [IQR 69.1-94.7]). Less calories and proteins were ordered and consumed than prescribed. In contrast, patients with (supplemental) enteral nutrition (EN) all met >90% of the protein targets. However, discontinuation of EN led to marked drops in energy (44.1%) and protein intake (50.7%), and patients needed up to 6 days to reach protein targets again. A trend in the composite endpoint of mortality and hospital readmission was observed ($p < 0.10$), favoring the >90% adequacy group.

Conclusion

Most patients did not meet nutritional targets during their post-ICU ward stay. Performance was highly dependent on the type of nutrition. An adequate intake was observed in patients with (supplemental) EN, although cessation of EN posed a nutritional risk. A trend towards improved outcomes in the high adequacy group was found. Findings stress the need for future studies to close the gap with individualized post-ICU nutritional support.