

Need to improve enteral feeding practice in ICUs



Early enteral nutrition (EEN), typically started within 48 hours after ICU admission, is recommended to be superior over delayed enteral nutrition and parenteral nutrition. However, based on observational studies, there is a notable gap between the EEN recommendations and the actual feeding performance in ICUs.

Arthur van Zanten, MD, PhD, Department of Intensive Care Medicine, Gelderse Vallei Hospital (Ede, The Netherlands), appeals to the international critical care, nutrition, and administrative leadership to initiate change and improve enteral feeding practice in ICUs, writing in *Critical Care*.

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Clinical practice guidelines on EEN, released by the ESICM Working Group on Gastrointestinal Function, suggested initiating it at a low rate, as beneficial effects regarding infection prevention have been demonstrated in critically ill patients, as well as in patients with severe acute pancreatitis and after gastrointestinal (GI) surgery. Delaying EN was only suggested in patients with:

- Uncontrolled shock (when haemodynamic and tissue perfusion goals are not met despite fluids and vasopressors)
- Uncontrolled hypoxaemia and acidosis
- Uncontrolled GI bleeding
- Overt bowel ischaemia (occlusive or non-occlusive)
- Bowel obstruction (mechanical ileus),
- Abdominal compartment syndrome
- Gastric aspirate volume (GRV) > 500 ml/6 h
- High-output fistula if reliable distal feeding access is not achievable

The ESICM recommendations have been adopted in the new nutrition guidelines for adult ICU patients by the European Society for Clinical Nutrition and Metabolism (ESPEN) as of September 2018.

In Latin American countries, for example, caloric intake failed to meet the daily target in 40 percent of ICU patients on day 1 (Vallejo KP et al.) Other observations were reported from the Nutrition Day ICU study concerning a 7-year worldwide prevalence study of nutrition practices in ICUs; more than 40 percent of the patients were not fed during the first day.

An even more significant gap between what the guidelines recommend and EN feeding performance in Chinese ICUs has been reported: only one-third of the patients received EN within two days. In addition, the proportion of subjects receiving > 80% of the energy target was only 4.8% after three days and 8.2% after one week.

EN improvement strategies have been shown to narrow this gap. For instance, nasogastric tube feeding of critically ill patients in a Chinese neurosurgical ICU was markedly improved after the implementation of a best practice strategy (Xu Y et al.). Collaboration, education, monitoring, and a reward system were the essential elements driving this success.

Also, EN protocols may help. The effectiveness of an EN protocol was studied in a before and after study among Chinese critically ill patients. The proportion of enteral feeding improved significantly after protocol implementation (Li Q et al.).

In a review by Kozeniecki and co-workers, many barriers and solutions to delivery of ICU nutrition therapy are addressed. Based on national or local opinions, however, protocols and implementation strategies have to be adjusted to overcome the challenges and improve performance.

"A multifaceted approach is warranted to improve the EEN performance in ICUs all over the world and in particular in China, involving all relevant stakeholders such as medical doctors, nutritionists and dieticians, nurses, healthcare assistants and, last but not least, patients and their families," writes Arthur Raymond Hubert van Zanten, MD, PhD, Department of Intensive Care Medicine, Gelderse Vallei Hospital (Ede, The Netherlands), in an editorial published in the journal *Critical Care*.

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