

mortality (11% vs 7%) when compared with on-demand feeding. Their conclusion was that enteral tube feeding can be initiated once patients have insufficient caloric intake after 72 h.¹

This statement seems to misrepresent the findings of the PYTHON trial.² This trial enrolled 208 patients predicted to develop severe acute pancreatitis. Participants assigned to receive on-demand oral feeding received only standard intravenous fluids for 72 h after presentation to the emergency department unless they requested food. At 72 h, those with no organ failure were offered food. Those who declined were continued on standard intravenous fluids. No evaluation for insufficient caloric intake was reported. Rather, participants were again offered food at 96 h. Those who declined began enteric feeding. Two-thirds of patients in the on-demand feeding group avoided a feeding tube.

Because there was no statistically significant difference in any primary or secondary outcome, it seems reasonable to assume that fasting for 96 h is not necessarily a form of insufficient caloric intake. The design of PYTHON and its results suggest that patients without organ failure need not start enteral nutrition during the initial 96 h. Whether on-demand feeding can be extended beyond 96 h is not addressed in the study.

We declare no competing interests.

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Authors' reply

We thank Eduardo Argaiz and Alice Gallo de Moraes as well as Thomas Finucane and Robin McKenzie for their comments on our Seminar about acute pancreatitis.¹

With regards to fluid management, we agree with Argaiz and Gallo de Moraes that the optimal approach to fluid management for acute pancreatitis is still unclear. As we outlined in our Seminar,¹ undirected aggressive fluid therapy is clearly detrimental to patients and therefore should be avoided. Fluid resuscitation should be goal-directed. The high intravenous fluid therapy (5–10 mL/kg per h) mentioned in the International Association of Pancreatology/American Pancreatic Association guidelines and referenced in the Seminar¹ relates to the initial hours of patient management and should be tailored to the clinical response, including urine output.²

We also agree with Argaiz and Gallo de Moraes that, when initial stabilisation has been reached, fluid administration should be substantially reduced and guided by the frequent reassessment of the haemodynamic status.³ There are many developments in the field of fluid resuscitation for sepsis,⁴ as well as a meta-analysis on fluid resuscitation for acute pancreatitis,⁵ which were unfortunately not yet published when we drafted the Seminar in 2019. A similar approach that is now used for patients with sepsis might also be relevant for patients with acute pancreatitis, and should be the focus of future studies.

Second, regarding the findings of the PYTHON trial,⁶ as raised by Thomas Finucane and Robin McKenzie, patients in the on-demand (control) group received intravenous fluids, but were allowed to eat when they requested food. Caloric intake was evaluated during the first week after admission: for patients in the on-demand group, dietitians registered the type and quantity of hospital food tolerated and calculated the amount of calories provided per patient. After 72 h, all patients in the on-demand group were offered an oral intake of food and this was evaluated at 96 h, after which nasoenteric tube feeding could be

started if an oral diet was still not tolerated.

We acknowledge that this intolerance was the indication to start nasoenteric tube feeding, but obviously these patients therefore had insufficient caloric intake. In the Seminar,¹ we aimed to underline that, on the basis of the findings of the PYTHON trial,⁶ an early start of nasoenteric tube feeding does not reduce the risk of infection or death.

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