PANCREAS NEWS

Pancreatic Rest or Not? The Debate on the Nutrition in Acute Pancreatitis Continues …

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Acute pancreatitis creates a catabolic stress state promoting a systemic inflammatory response and nutritional deterioration; as a consequence, adequate supply of nutrients plays an important role in recovery [1]. Up to the 1990s, total parenteral nutrition and gastrointestinal tract rest have been comprehensively recommended in acute pancreatitis, which make pancreas at rest to reduce pancreatic exocrine secretion and also meet nutritional need [2, 3, 4]. Afterwards, several studies showed that intestinal mucosa undergoes atrophy during oral fasting, which would induce bacteria translocation in gastrointestinal tract and cause pancreatic necrotic tissue infection [5, 6]. According to this, animal experiments and human studies have shown that enteral nutrition is safe and can preserve the integrity of intestinal mucosa to decrease the incidence of infectious complications and other severe complications, such as multiple organ deficiency syndrome [4]. Furthermore, enteral nutrition does not stimulate pancreatic exocrine secretion, if the feeding tube is positioned in the jejunum by nasojejunal or jejunostomy routes. Therefore, total parenteral nutrition or jejunal enteral nutrition was considered the mainstream of nutritional support for acute pancreatitis, strengthening the concept of the requirement of pancreatic rest in the acute inflammation phase. To muddy the waters, others evidences have underlined the feasibility of enteral nutrition through nasogastric tube to improve the nutrition status [7, 8, 9] of patients in the early phase of the disease with potentially favorable effect on pain and analgesic requirement in predicted severe acute pancreatitis [8], and this away us from the need of pancreatic rest. During the last decade, many other considerable contributions (controlled trials, reviews, position statements, international recommendations) have been published on this topic with not-always univocal standpoints. The recent Cochrane Systematic Review on enteral nutrition *vs.* total parenteral nutrition stated that enteral nutrition significantly reduced mortality, multiple organ failure, systemic infections, and the need for operative interventions in patients with acute pancreatitis compared with those who received total parenteral nutrition [1]. In addition, there was a trend towards a reduction in length of hospital stay; the conclusions suggest that enteral nutrition should be considered the standard of care for patients with acute pancreatitis requiring nutritional support. But, is this statement valuable for all types of acute pancreatitis? Considering the literature data, we can observe that the vast majority of the available studies are focused on severe acute pancreatitis and, due to the lack of specifically addressed studies, we do not exactly know what are the modality and requirement for nutritional support in mild acute pancreatitis [10]. So, the precise population that benefits from tube feeding/NPT/pancreatic rest remains largely undefined and extrapolation of a correct behavior into daily clinical practice is difficult.

Quite recently, the first randomized trial to compare nasogastric feeding with a conventional *nil-per-os* regimen in patients with mild to moderate acute pancreatitis has been published [11]. The trial enrolled 17 patients allocated to the nasogastric tube group and 18 to the *nil-per-os* group. The visual analogue pain score decreased to a significantly greater extent in the nasogastric tube group (from median 9 at baseline to 1 at 72 h after randomization) compared with the *nil-per-os* group (from 7 to 3; P=0.036). The number of patients not requiring opiates at 48 h after randomization was significantly different (P=0.024) between nasogastric tube (9/17, 52.9%) and *nil-per-os* (3/18, 16.7%). Oral food intolerance was observed in 1/17 patient (5.9%) in the nasogastric tube group and 9/18 patients (50.0%) in the *nil-per-os* group (P=0.004). The overall median (interquartile range) hospital stay in the nasogastric tube group was 9 (5-12) days as

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compared with 8.5 (6-13) days in the *nil-per-os* group (P=0.91); neither nasogastric tube nor the *nil-per-os* regimen appears to influence the severity of disease and number of interventions, The study demonstrates that early use of nasogastric tube commenced within 24 h of hospital admission is well tolerated in patients with mild to moderate acute pancreatitis in general, and those with severe initial abdominal pain in particular. The trial also shows that early nasogastric tube results in a significant decrease in the intensity and duration of abdominal pain, need for opiates, and risk of oral food intolerance. Further, it shortens time from admission until tolerance of oral food and time from oral re-feeding until hospital discharge in those patients who have severe initial abdominal pain. From practical standpoint, these data strongly suggest that the benefits of nasogastric tube feeding are not limited to the patients with severe acute pancreatitis only, but in mild-moderate forms also. From theoretical standpoint, the concept of "pancreatic rest" results a little-bit challenged from these findings. nasogastric tube might not have been stimulatory to the pancreas in the way it was given, but the most important things could be the flow-rate and quality of nutrients. In alternative, early *nil-per-os* or nasogastric tube nutrition may stimulate pancreatic secretion but this stimulation may be sub-clinical or not relevant in the acute pancreatitis outcome.

Conflict of interests The author has no potential conflict of interests

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