# Nutritional support in acute pancreatitis: the enteral *vs* parenteral dilemma

*Madhusudan P Rao, Larry Mulleague*

Acute pancreatitis has an unpredictable outcome with serious complications arising in 20–30% of cases. These run a more fulminant course characterized by pancreatic necrosis and associated cytokine activation resulting in multi-organ failure. These patients require intensive care therapy, nutritional support and often judiciously timed surgery (Lobo et al, 2000). Acute severe pancreatitis imposes a catabolic stress state and ultimately nutritional depletion. Thus early provision of nutritional support is a significant component of the management of patients to ensure optimum recovery (Kalfarentzos et al, 1997). Most patients with mild uncomplicated pancreatitis do not benefit from nutritional support.

In critically ill patients the gastrointestinal tract, while not necessarily the 'motor' of sepsis, serves as a potential source of fuel for the acute inflammatory process. Experimental and clinical studies have shown that translocation of bacteria and bacterial toxins is promoted by an impaired intestinal mucosal barrier and is likely to exacerbate the systemic inflammatory immune response. Providing proper nutrition (by the enteral route where possible) helps maintain the integrity and function of the mucosal barrier.

Improved clinical outcomes and decreased infective complications have been demonstrated with enteral feeding in other immuno-inflammatory conditions, supporting this concept (Hadfield et al, 1995).

Conventional management of patients with acute pancreatitis has been based on a nil by mouth regimen to rest the pancreas, with or without provision of total parenteral nutrition (TPN). This rationale arises from the belief that stimulation of pancreatic exocrine function in patients with acute pancreatitis by gastric or duodenal feeding releases large quantities of proteolytic enzymes which results in auto-digestion of the inflamed pancreas and peri-pancreatic tissues, causing a deterioration in the patient's condition. In contrast intrajejunal delivery of nutrients via naso-enteral feeding tubes passed beyond the ligament of Treitz is not associated with pancreatic stimulation. Enteral feeding has the advantages of being less expensive, and having the potential for protecting the gut barrier and reducing infective complications.

While avoiding pancreatic stimulation, TPN is associated with certain disadvantages, including increased rate of catheter-related sepsis, cost and electrolyte and metabolic disturbances (Kalfarentzos et al, 1997). A recent Cochrane review compared randomized clinical trials in which nutritional support with TPN was compared with enteral nutrition in patients with acute pancreatitis (Al-Omran et al, 2001). Influence on mortality, hospital stay, systemic infection, surgery and other local complications were assessed. Two trials with a total of 70 patients were included. The authors concluded that although there is a trend towards reduction in adverse outcome of acute pancreatitis after administration of enteral nutrition there are insufficient data to draw firm conclusions about the effectiveness and safety of enteral nutrition *vs* TPN and recommended further trials.

## CONCLUSIONS

All the published evidence suggests that enteral feeding, in addition to being safe and feasible, may have advantages over TPN with regards to decreased costs and decreased septic complications.

The patients most likely to benefit from nutritional support are those with acute severe pancreatitis and those with malnutrition. Jejunal enteral feeding should be started early within 48 hours of the disease. Parenteral nutrition should be reserved for patients in whom nasojejunal feeding is not tolerated or possible. Patients requiring surgery should have a jejunal tube placed at time of surgery. HM

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**Dr Madhusudan P Rao** is Specialist Registrar in Anaesthetics and **Dr Larry Mulleague** is Consultant in Anaesthesia and Intensive Care, Royal Free Hospital, London NW3 2QG

*Correspondence to: Dr MP Rao*

Anaesthetic and critical care dilemmas are coordinated by **Dr Rob Stephens** and **Dr Mike Grocott**, Research Fellows at the Centre for Anaesthesia, UCL, London

Ideas for future dilemmas can be sent to Dr Stephens robstephens@hotmail.com