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Review

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Nutrition support to patients undergoing gastrointestinal surgery

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Abstract

Nutritional depletion has been demonstrated to be a major determinant of the development of post-operative complications. Gastrointestinal surgery patients are at risk of nutritional depletion from inadequate nutritional intake, surgical stress and the subsequent increase in metabolic rate.

Fears of postoperative ileus and the integrity of the newly constructed anastomosis have led to treatment typically entailing starvation with administration of intravenous fluids until the passage of flatus. However, it has since been shown that prompt postoperative enteral feeding is both effective and well tolerated. Enteral feeding is also associated with specific clinical benefits such as reduced incidence of postoperative infectious complications and an improved wound healing response. Further research is required to determine whether enteral nutrition is also associated with modulation of gut function.

Studies have indicated that significant reductions in morbidity and mortality associated with perioperative Total Parenteral Nutrition (TPN) are limited to severely malnourished patients with gastrointestinal malignancy. Meta-analyses have shown that enteral nutrition is associated with fewer septic complications compared with parenteral feeding, reduced costs and a shorter hospital stay, so should be the preferred option whenever possible.

Evidence to support pre-operative nutrition support is limited, but suggests that if malnourished individuals are adequately fed for at least 7–10 days preoperatively then surgical outcome can be improved.

Ongoing research continues to explore the potential benefits of the action of glutamine on the gut and immune system for gastrointestinal surgery patients. To date it has been demonstrated that glutamine-enriched parenteral nutrition results in reduced length of stay and reduced costs in elective abdominal surgery patients. Further research is required to determine whether the routine supplementation of glutamine is warranted.

A limitation for targeted nutritional support is the lack of a standardised, validated definition of nutritional depletion. This would enable nutrition support to be more readily targeted to those surgical patients most likely to derive significant clinical benefit in terms of improved post-operative outcome.

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