

Parenteral Nutrition with Enteral Nutrition for Severe Acute Pancreatitis

Abstract

Nutritional management in severe acute pancreatitis (SAP) is controversial regarding the appropriateness of enteral or parenteral nutrition in the management of patients with severe acute pancreatitis. Here, we evaluate the therapeutic effect of a gradual combination of parenteral nutrition (PN) with enteral nutrition (EN) on PAS. Clinical data of 130 cases of PAS were analyzed retrospectively. In which, 59 cases were treated with integrated nutritional support (Group I) and the remaining 71 cases were treated with PN ascending combination with EN (Group II). The APACHE II score and IL-6 level were significantly lower in group II than in group I. Complications, mortality, mean length of hospital stay, and cost of hospitalization in group II were 39.4, respectively. %, 12.7%, 32.9 days and RMB 30,869,412,794.6, significantly lower than that of group I. The cure rate of group II was 81.7%, which is obviously higher than that of group I. 59.3% in group I. Findings. This study indicates that the combination of PN with EN may not only improve the natural history of pancreatitis, but may also reduce morbidity and mortality.

Keywords: Nutritional • Mortality • Pancreatitis

Introduction

Acute pancreatitis (AP) is an acute inflammatory process of the pancreas with varying involvement of other distant tissues or organ systems, ranging from mild and self-limiting requiring short hospitalization to fulminant progression. rapidly lead to multi-organ dysfunction syndrome. with or without associated sepsis. Severe acute pancreatitis (SAP) is a common disease with acute organ failure and/or local complications such as necrosis, abscess, or pseudocyst with a mortality rate of up to 30%. Despite improvements in intensive care treatment over the past decades, mortality from PAS has not decreased significantly [1]. The pathogenesis of acute pancreatitis is related to improper conversion of trypsinogen to trypsin and lack of rapid clearance of active trypsin inside the pancreas. SAP includes a supercatabolic state that leads to protein catabolism and increased resting energy requirements. Because of the prevalence of early malnutrition, nutritional therapy is now recognized as an important part of the management of PAS. The traditional approach to nutritional therapy in PAS has been to rest the pancreas during an oral diet and provide parenteral nutrition (PN) to meet nutritional needs. However, recent studies show an advantage of early NE over PN. European Society of Clinical Nutrition and Metabolism guidelines suggest that “all patients who have not been fed normally for 3 days should receive PN within 24-48 hours if EN is contraindicated or they can’t stand NE”. Guidelines from the American Society of Intravenous and Enteral Nutrition in conjunction with the American Society for Intensive Care Medicine state: “If early EN is not possible or absent within the first seven days of ICU admission, no nutritional support therapy should be offered.” PN is associated with intestinal mucosal atrophy, overeating, hyperglycemia, increased risk of infectious complications, and increased mortality [2,3]. EN may be associated with high gastric residue, bacterial colonization of the stomach, and an increased risk of aspiration pneumonia. Several studies have reported inadequate energy intake in clinical practice and, in fact, it often takes up to 7 days to reach the nutritional target per EN. Nutrition in SAP has been discussed and studied for many years and still has the advantage of providing the treatment that doctors think of rather than following the protocols and the evidence. The early NE role was well established in SAP and should be implemented sooner. However, in SAP it is also impossible to ignore the role of PN. Since 2002, we started using progressive combined nutritional support to treat SAP, where PN is combined with EN and we have had

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good outcomes. To discuss the mechanism of progressive combined nutritional support in the treatment of PAS, we retrospectively studied two groups of patients with two different nutritional support treatments and compared the advantages and disadvantages of the two nutritional support methods.

Extreme intense pancreatitis is intense pancreatitis related with complications that are either nearby e.g., peripancreatic liquid collection, rot, canker, pseudocyst or systemic e.g., organ brokenness. Concurring to the Atlanta Classification, SAP can be separated into two stages. The primary stage of approximately 7–10 days begin with aseptic irritation, systemic irritation reaction disorder, sepsis, multi organs disappointment, and indeed passing. The moment stage more often than not after the moment week of the infection, the circumscribed complications such as pancreatic rot started to seem. Amid this period, the lives of these patients are still in genuine risk of necrotizing pancreas, complication, and passing which is due to fiery safe reaction of pancreatic rot and disease [4-6]. In SAP, basal metabolic rate (BMR) increments due to aggravation and intense push response in this manner increment the by and large vitality utilization. Eighty percent of patients with serious necrotizing pancreatitis are overcatabolic and regular lose more than 40 g of proteins which grant negative adjust and is unfavorable to the illness recuperation. In this manner, sustenance back must be ensured; on the off chance that not in time, denutrition will get the condition more regrettable. Over the past, number of therapeutic teaches utilized Harris-Benedict condition measured by resting vitality use of patients with SAP, but at the time when body is at stretch due to the illness, there may be tall metabolic decompensating state and consequently exogenous supplements may have refractoriness. Cerra has proposed the concept of metabolic back which advocates, giving the fundamental supplements substrate for the body; we must too take another truth under consideration that it ought to not increment the stack of the body's organs. Lugli has proposed the standards of the sustenance back treatment for intense pancreatitis: (a) asses the nutritional status of patients; (b) concurring to the seriousness of the illness to require the sustenance treatment; (c) affirm the patients with signs of the uncommon wholesome bolster to grant extraordinary way nourishment treatment [7-10]. All the wholesome bolster ought to supply the vitality as much as conceivable to meet

the require of body beneath the preface of not fortifying pancreatic exocrine work. At show, exceptionally few investigates around slowly combined treatment of parenteral nourishment with enteral nourishment for serious intense pancreatitis have been detailed. We think this inquire about will be curiously to the perusers.

Conclusion

Patients with PAS often have increased catabolism; Timely feeding arrangements are very important if malnutrition is to be prevented or treated. Local complications of pancreatitis can lead to upper gastrointestinal tract obstruction, making enteral nutrition problematic. There is also concern that enteral nutrition may worsen the severity of PAS through stimulation of the pancreas and release of additional enzymes. These considerations have led to the widespread use of parenteral nutrition as the primary mode of nutritional support in PAS. Abundant evidence suggests that there are several potential advantages of enteral nutrition over parenteral nutrition, including reduced bacterial translocation, improved intestinal blood flow, and maintenance of immunity. In addition, since the altered gut microbiota and barrier function may contribute to the development of infectious pancreatic necrosis, there are theoretical benefits to cross-feeding.

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