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ORIGINAL RESEARCH

Immediate oral refeeding in patients with mild and moderate acute pancreatitis

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Abstract

Objectives: To assess the effects of mild and moderate acute pancreatitis (AP) patients receiving early oral refeeding (EORF) versus conventional oral refeeding (CORF).

Methods: From February 2022 to August 2022, this randomised controlled study was conducted in the surgery department. In all, 120 participants were enrolled in the trial. Patients were split into Group-A and Group-B. Each group had thirty patients. Patients in Group-A were on EORF (feeding began within 12 hours of onset), whereas those in Group-B were primarily on CORF (feeding began after 12 hours of presentation).

Results: 58 (48.3%) of the 120 patients had mild AP, and 62 (51.6%) had moderate pancreatitis. Table-I shows the distribution of the AP aetiology by gender. The patients getting EORF had shorter hospital stays than those receiving CORF, which was statistically significant difference in LOHS between the two groups.

Conclusion: Early oral feeding is practical, safe, and has better results than routine oral refeeding in patients with mild to moderate acute pancreatitis.

Keywords: Acute Pancreatitis, Early Oral Refeeding, Length of hospital stay

Introduction

The care of acute pancreatitis (AP), the most common cause of hospitalisation in the world, must include nutritional support. Early enteral nutrition (EN) is essential to maintaining the GI tract's mucosal integrity and aids in preventing bacterial translocation and sterile pancreatic necrosis infection [1,2]. In a recent meta-analysis, the effectiveness of total EN and total parenteral nutrition (TPN) were compared. The results showed that total EN was superior to TPN in terms of mortality, infectious complications, organ failure, and the need for surgical intervention in patients with predicted severe AP [3]. A few important recommendations are made by the international consensus guidelines on dietary therapy for AP [4]. First, patients with mild to moderate AP usually do not need nutrition support therapy, which can be saved for patients with severe AP. Second, EN is preferred over PN, with PN only being utilised when EN is inappropriate or impractical.

Analgesia, intravenous fluid resuscitation, and pancreatic rest by nil per mouth are the essential components of the initial supportive care for acute pancreatitis [5,6]. In order to lessen discomfort, vomiting, and abdominal distension, oral nourishment is avoided. The idea of pancreatic rest also aims to slow the progression of disease by preventing stimulation of

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pancreatic production. Based on the idea that oral consumption during the initial stages of AP will accelerate pancreatic enzyme synthesis and secretion, enhance intrapancreatic enzyme activation, and subsequently exacerbate pancreatic tissue damage. When patients are pain-free, their bowel sounds have returned, and their serum levels of inflammatory markers and pancreatic enzymes are declining, oral refeeding following AP is typically started [5,7]. To reduce the chance of pain and an AP recurrence, daily calorie and fat intake is typically raised gradually over a number of days.

Resuming oral feeding is frequently decided upon when the gastrointestinal pain has subsided and laboratory results, such as pancreatic amylase and lipase, have returned to normal [8]. Emerging evidence from recent research, however, indicates that normalisation of blood lipase level is not a need before resuming oral feeding [9,10]. Early oral refeeding (EORF) based on hunger in patients with moderate AP was found to be safe and to shorten hospital length of stay (LOS) in a prior prospective randomised controlled study (RCT) [11]. Patients resumed oral meals when they became hungry, but neither their symptoms nor their biochemical indicators had improved. The purpose of this study was to compare EORF with traditional oral refeeding in order to assess the viability and safety of EORF based on hunger in patients with mild or moderate AP.

Materials and Methods

From February 2022 to August 2022, this randomised controlled study was conducted in the surgery department. In all, 120 participants were enrolled in the trial. Using the WHO calculator, the sample size was calculated with a power of 90% and a 95% confidence range and significance level. Patients between the ages of 20 and 70 who presented to the emergency room and outpatient department with gastrointestinal (GI) symptoms of pain in the epigastrium, nausea, and vomiting, as well as a serum amylase level greater than 200 IU/L (twice the normal value of 100 IU/L), were admitted to the hospital after receiving approval from the hospital ethical committee.

Patients with mild and moderate AP were defined as having a Glasgow prognostic score of less than three, pain assessment of less than four on the Visual Analogue Scale (VAS), post-ERCP AP, history of cholelithiasis and not requiring emergency admission, post-blunt trauma pancreatitis, and patients with alcoholic pancreatitis. Patients with post-burn pancreatitis, post-penetrating traumatic pancreatitis, obstructive jaundice, pancreatitis with choledocholithiasis, acid peptic disease with perforated duodenum, pancreatic cancer, esophageal perforation, measles, and pregnancy were excluded.

Using the consecutive non-probability sampling technique, patients were split into Group-A and Group-B. Each group had thirty patients. Patients in Group-A were on EORF (feeding began within 12 hours of onset), whereas those in Group-B were primarily on CORF (feeding began after 12 hours of presentation). Each patient gave their signed agreement after being fully informed about the involvement. The above-mentioned information was recorded on a standardised proforma together with demographic information. After serum amylase levels returned to normal (less than 100 IU/l) and GI symptoms subsided, the patient was released. Both groups' length of hospital stay (LOHS) was assessed following discharge.

SPSS Version 20 was used to enter and analyse all of the data. Age and LOHS, two quantitative variables, were expressed as mean and standard deviation. Age and gender were effect modifiers that were under the influence of stratification. Independent sample t-tests were employed post-stratification to compare the LOHS between the two groups. Statistics were considered significant at P values less than 0.05.

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Results

This study covered 120 patients in total. 48 (40%) were female and 72 (60%) were male out of this group. The study population's average age was 44.10 ± 12.72 years (Range 23-68 years). 58 (48.3%) of the 120 patients had mild AP, and 62 (51.6%) had moderate pancreatitis. Table-I shows the distribution of the AP aetiology by gender. Table-II provides group-wise statistics demonstrating LOHS. The patients getting EORF had shorter hospital stays than those receiving CORF, which was statistically significant difference in LOHS between the two groups.

Table 1: Type of illness amongst patients with respect to gender (n=120)

Variables	Acute mild Pancreatitis	Acute moderate Pancreatitis	Total
Males	44	28	72
Females	14	34	48
Total	58	62	120

Table 2: Comparison of LOHS between two groups (n=120).

Oral refeeding of patients	N	LOHS	P
CORF	60	10.03±1.752	0.001
EORF	60	7.80±2.140	(p<0.05)

Discussion

Early enteral feeding is accepted as part of the management of AP [12], although it is also believed to be harmful during the initial stages of AP. NPO was a standard approach of treating AP for many years. Fear of a potential increase of the autodigestive process in the pancreatic gland and peripancreatic tissue served as the principal defence against oral feeding. This may occur as a result of the pancreatic exocrine secretion being stimulated by oral meal consumption [13]. The absence of nausea, vomiting, and abdominal pain; the return of appetite; and the normalisation of laboratory results, especially serum amylase and lipase levels, are the typical criteria for resuming oral feeding. The evidence for EORF without normalisation of serum values is getting stronger. According to the findings of an open randomised multicenter trial, normalising serum lipase levels is not necessary before starting EN again in patients with mild AP [9].

A few important recommendations are made by the international consensus guidelines on nutrition therapy for AP. [4] First, patients with mild to moderate AP usually do not need nutrition support therapy, which can be saved for patients with severe AP. Second, Parenteral Nutrition (PN) should only be administered when EN is impractical or contraindicated. Due to a lack of information, there are still many inconsistencies and misunderstandings between clinical practise and the results of studies on pancreatic rest, efficacy, and safety of early oral refeeding in AP. [14-17]

60 patients were randomly assigned to one of two treatment groups in research by Eckerwall GE and colleagues: immediate oral feeding or fasting. There was no discernible difference in the groups' amylase, leukocyte, abdominal discomfort, or number of gastrointestinal symptoms. Our study's findings are further supported by the fact that the LOHS was dramatically reduced in the oral feeding group [17].

Finally, we are of the opinion that EORF is safe and effective in lowering LOHS in patients with mild and moderate AP, taking into consideration our results and their comparability with earlier trials. It is safe to use this therapy method in hospitals to benefit patients.

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Conclusion

In compared to nil per mouth and routine oral refeeding procedure, early oral refeeding is safe and beneficial for reducing length of hospital stay in patients with mild and moderate acute pancreatitis without exacerbating and creating clinical problems. For the reliability and generalizability of our findings to be confirmed, additional research in other centres is required.

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