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Research Article

Outcomes of Early Enteral Feeding (<48 hours) in Patients with Predicted Severe Acute Pancreatitis

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Abstract

Background: Early enteral nutrition (EEN) is preferred for severe acute pancreatitis (SAP) patients, but the optimal timing is controversial. The clinical implications of initiating EEN within 48 hours versus later (>48 hours) in predicted SAP patients are unclear. This study compares outcomes in predicted SAP patients receiving EEN within 48 hours to those receiving it later.

Methods: Retrospective cohort study of adults (≥18 years) with predicted SAP (BISAP score ≥2) from 05/2011-07/2023. EEN was defined as initiation within 48 hours of diagnosis. Exclusions included inaccurate diagnoses, outside transfers, missing data, chronic pancreatitis, acute exacerbations of chronic pancreatitis, and TPN-only treatment. Statistical analysis included Chi-square, Fisher exact tests, and two-sample t-tests.

Results: Among 83 predicted SAP patients, 27 received EEN within 48 hours, and 56 received late feeding. Baseline characteristics, including age, gender, BMI, and BISAP score, were similar. Post-pyloric feeding was used in 91.6%, and 45.6% reached goal feeding rates in <72 hours. The EEN group had significantly shorter ICU stays (14.7 vs. 25.4 days, p=0.011), fewer pancreatic fluid collections (22.2% vs. 48.2%, p=0.043), and fewer gastrointestinal complications (48.1% vs. 75%, p=0.03). Early EEN (< 48 hours) showed improved composite outcomes, including decreased mortality, ICU needs, early systemic complications, and lower hospital and ICU costs.

Conclusion: This novel study demonstrated that initiating EEN within 48 hours in predicted SAP patients significantly improves outcomes, highlighting its importance in management. These findings support EEN as a clinical standard for SAP patients and call for future prospective studies to confirm its benefits.

Keywords: Acute pancreatitis; early enteral feeding; enteral nutrition; BISAP score; severe acute pancreatitis

Introduction:

Acute pancreatitis (AP) is a leading cause of hospitalization in the United States, with over 300,000 admissions annually, resulting in high healthcare costs exceeding $2.5 billion.[1,2] While most AP cases are self-limiting, approximately one-third progress to severe acute pancreatitis (SAP), a condition associated with multiple organ dysfunction and significant morbidity and mortality.[3,4] The challenge lies in the early identification

of SAP cases, as most initially present with mild symptoms. In the absence of targeted therapy, management focuses on ICU support, fluid resuscitation, nutritional support, and systemic complication control.[1,5,6]

Historically, fasting and total parenteral nutrition (TPN) were standard for AP to reduce exocrine pancreatic stimulation. However, TPN has been associated with higher infection rates and metabolic complications than enteral nutrition (EN).[7] Additionally, research suggests intestinal barrier impairment exacerbates outcomes by increasing bacterial translocation and infectious risks.[8] Early enteral nutrition (EEN) is crucial in maintaining intestinal mucosal integrity and reducing complications.[1,8,9] However, while evidence supports early feeding, the optimal timing for initiating EN in SAP remains debated. Some studies report benefits within 24 hours, while others find no significant advantage.[1,3,10,11]

This study aims to clarify the impact of EEN initiation within 48 hours compared to later initiation (>48 hours) in predicted SAP patients by analyzing clinical outcomes, ICU needs, complications, and healthcare costs.

Methodology

This retrospective cohort study at our institution received approval from the institutional review board (IRB, #22-723) and utilized electronic medical records.

Inclusion criteria: Patients aged ≥18 years with predicted SAP (BISAP score ≥2) were admitted from May 2011 to July 2023, and receiving enteral feeding was included. Predicted SAP was defined as having an admission BISAP score ≥2 within 24 hours of presentation.[12] **Figure 1**

Exclusion criteria: Patients with chronic pancreatitis, acute exacerbations of chronic pancreatitis, tolerating oral diet alone, TPN-only treatment, and outside hospital transfers lacking prior data. For patients with recurrent episodes of AP, data collection was based solely on the initial admission. If the first episode was managed at another facility, only the first admission for recurrent AP within our hospital system was included. **Figure 1**

Data collection:

Demographics, comorbidities, BISAP scores, severity classification, feeding methods (gastric vs. jejunal), EN initiation timing, IV fluid resuscitation, ICU admissions, hospital length of stay, readmission rates, mortality, and long-term complications were documented.

Details on comorbidities included the presence of diabetes mellitus, hypertension, hypothyroidism, hyperlipidemia, smoking status (former vs current), and history of chronic pancreatitis. Significant alcohol use was defined as >7 drinks/week or >3 drinks/day for women, and >14 drinks/week or >4drinks/day for men. Charlson Comorbidity Index[13] was used to characterize the patients' comorbidities. Key details of the acute pancreatitis episode were recorded, including the date of hospital presentation, symptom onset, whether it was a first or recurrent episode vs. recurrent attack, etiology, and whether it was interstitial edematous pancreatitis or vs. necrotizing pancreatitis. The severity of AP was noted based on Revised Atlanta classification (2012)[5]: mild (no organ failure and no local or systemic complications), moderate (Transient organ failure <48 hours and/or local or systemic complications), and severe (Persistent organ [single or multiple organ] failure >48 hours).

Details regarding feeding methods included whether nutrition was administered enterally (gastric vs. jejunal) or parenterally. We also gathered data on the timing of enteral nutrition initiation, categorized into initiated <24 hours, 24-48 hours, 48-72 hours, 72-96 hours, and >96 hours, as well as the time taken to reach the target feeding rate. Any interruptions in feeding lasting >24 hours were also recorded. For cases where enteral feeding was combined with additional oral feeding or TPN, data were collected on the day of initiation for oral/TPN feeding using the same time intervals. Additionally, data on intravenous fluid resuscitation within the first 24 hours of acute pancreatitis diagnosis were documented, including the total volume of fluids administered (<2 L, 2-4 L, or >4 L), the type of fluid used (normal saline, lactated Ringer's, other, or mixed), and urine output during the first 24 hours.

The outcomes assessed included ICU admission, length of stay, total hospital length of stay, hospital readmission rates for recurrent pancreatitis, and mortality. Data on local complications encompassed the presence of pancreatic fluid collections, necrosis, and whether endoscopic, percutaneous, or surgical interventions were required to manage these complications. Additional data collected included rates of infected necrosis/fluid collections, pseudocysts, venous thrombosis, ascites, gastrointestinal bleeding, and pancreatic fistulas. Systemic complications observed during hospitalization included pleural effusion, pneumonia, acute respiratory failure, acute kidney injury, sepsis, multi-organ failure, and urinary tract infections. Long-term outcomes were also noted, including the development of pancreatic fistulas, chronic pancreatitis, new-onset diabetes, and exocrine insufficiency.

We collected data on the total cost of hospitalization in USD, including the overall daily cost, the daily and total costs incurred after the diagnosis of acute pancreatitis, and the total and daily costs specific to ICU care.

Statistical analysis: Continuous variables were analyzed using t-tests, and categorical data were compared using Chi-square and Fisher exact tests. A significance threshold of $p<0.05$ was applied.

Results

A total of 312 patients with predicted SAP were initially selected for review. After applying exclusion criteria, 83 patients were analyzed (27 received EEN; 56 received late EN). Baseline characteristics, including age (57.9 years, p=0.47), gender, BMI, and BISAP scores, were similar. The EEN cohort had a higher proportion of female patients (70.4% vs. 41.1%; p=0.01). The most common etiology was alcohol-related AP (37.3%), followed by gallstone-related AP (18.1%).

There were no significant differences between the two groups in age at diagnosis of pancreatitis, race, BMI, smoking history, history of significant alcohol use, comorbidities, or Charlson comorbidity index. The average BISAP score for the EEN and late EN patients was similar (EEN: 2.9 vs. late EN: 3.0, p-value = 0.74). A total of 69/83 (83.1%) of the predicted SAP patients eventually developed SAP, with the EEN cohort having a slightly lower proportion of patients with SAP compared to the late EN cohort (70.4% vs. 89.3%, p = 0.06). A higher percentage of patients who proceeded to have late EN were initially diagnosed with SAP in the emergency department compared to patients with EEN, predominantly diagnosed in the ICU (46.4% and 22.2%; p-value = 0.07). 66.7% of patients with EEN were managed in the ICU, vs 83.9% of patients with late EN required ICU transfer. Among both cohorts, 95.2% experienced their first episode of AP. Additionally, 88% developed interstitial edematous pancreatitis, while 12%

developed necrotizing pancreatitis. **Table 1**

Table 1. Demographics features	Combined cohort N = 83	Early Enteral Nutrition N = 27	Late Enteral Nutrition N = 56	p-value
Age, years (SD)	57.9 (16.8)	59.8 (17.2)	56.9 (16.7)	0.47
Female Gender	42 (50.6%)	19 (70.4%)	23 (41.1%)	**0.01**
Race:				0.11
White	55 (66.3%)	14 (51.9%)	41 (73.2%)	
Black	24 (28.9%)	11 (40.7%)	13 (23.2%)	
Hispanic	1 (1.20%)	1 (3.70%)	0 (0.00%)	
Multiracial	2 (2.41%)	1 (3.70%)	1 (1.79%)	
Unknown	1 (1.20%)	0 (0.00%)	1 (1.79%)	
BMI	31.4 (10.3)	31.5 (9.64)	31.3 (10.7)	0.92
Smoking History (current/former)	43 (51.8%)	17 (63.0%)	26 (46.4%)	0.24
Smoking (Average pack/year)	15.1 (19.4)	19.5 (25.1)	12.2 (14.1)	0.29
Significant ETOH use:	21 (25.6%)	5 (18.5%)	16 (29.1%)	0.45
Charlson comorbidity index	4.88 (3.07)	5.70 (3.24)	4.48 (2.92)	0.1
BISAP Average score Day 1:	2.98 (0.94)	2.93 (0.92)	3.00 (0.95)	0.74
BUN >25	51 (61.4%)	16 (59.3%)	35 (62.5%)	0.97
Impaired Mental Status	49 (59.0%)	15 (55.6%)	34 (60.7%)	0.83
SIRS criteria met	66 (79.5%)	23 (85.2%)	43 (76.8%)	0.55
Age > 60	41 (49.4%)	14 (51.9%)	27 (48.2%)	0.94
Pleural effusion	40 (48.2%)	11 (40.7%)	29 (51.8%)	0.48
Severity based on Revised Atlanta Classification:				0.06
Mild-moderate	14 (16.9%)	8 (29.6%)	6 (10.7%)	
Severe	69 (83.1%)	19 (70.4%)	50 (89.3%)	
The setting in which AP was diagnosed:				0.07
Regular Nursing Floor	16 (19.3%)	8 (29.6%)	8 (14.3%)	
ICU	35 (42.2%)	13 (48.1%)	22 (39.3%)	
ED	32 (38.6%)	6 (22.2%)	26 (46.4%)	.
Etiology:				0.4
EtOH	31 (37.3%)	13 (48.1%)	18 (32.1%)	
Gallstones	15 (18.1%)	6 (22.2%)	9 (16.1%)	
Triglycerides	4 (4.82%)	0 (0.00%)	4 (7.14%)	
Drug-induced	10 (12.0%)	2 (7.41%)	8 (14.3%)	
Post ERCP	1 (1.20%)	1 (3.70%)	0 (0.00%)	
Unknown	22 (26.5%)	5 (18.51%)	17 (30.4%)	
Number of attacks:				0.593
First attack	79 (95.2%)	25 (92.6%)	54 (96.4%)	
Recurrent attack	4 (4.82%)	2 (7.41%)	2 (3.57%)	
Type of Acute Pancreatitis:				0.155
Interstitial Edematous Pancreatitis (IEP)	73 (88.0%)	26 (96.3%)	47 (83.9%)	
Necrotizing Pancreatitis	10 (12.0%)	1 (3.70%)	9 (16.1%)	

In patients with predicted SAP, EEN was initiated within 24 hours of pancreatitis diagnosis in 70.4% (19/27) of cases, while 29.6% (8/27) started EEN within 24-48 hours. Among patients with late EN, 14.3% (8/56) had EN initiated within 72-96 hours, and 85.7% (48/56) started EN after 4 days. 91.6% of patients were fed via the post-pyloric naso-jejunal feeding route. We noted no significant difference between nasogastric vs naso-jejunal feeding, time taken to reach the goal rate of tube feeds, or feeding interruption for >24 hours between the two cohorts. However, a higher proportion of patients in the late EN group had combined oral feeding initiated at >4 days of diagnosis than patients in the EEN group (late EN: 67.7% vs EN: 44.4%, p-va1lue = 0.03). **Table 2**

Table 2. Nutrition variables	Combined cohort N = 83	Early Enteral Nutrition N = 27	Late Enteral Nutrition N = 56	p-value
Time when enteral nutrition (EN) started:				<0.001
Day 1 (< 24hours)	19 (22.9%)	19 (70.4%)	0 (0.00%)	
Day 2 (24-48hours)	8 (9.64%)	8 (29.6%)	0 (0.00%)	
Day 4 (72-96hours)	8 (9.64%)	0 (0.00%)	8 (14.3%)	
> 4 days	48 (57.8%)	0 (0.00%)	48 (85.7%)	
Type of EN started:				0.207
Gastric (Pre-pyloric)	7 (8.43%)	4 (14.8%)	3 (5.36%)	
Jejujnal (Post-pyloric)	76 (91.6%)	23 (85.2%)	53 (94.6%)	
Time to reach goal since starting EN:				0.691
Reached goal in < 24hours	17 (21.0%)	6 (22.2%)	11 (20.4%)	
Reached goal in 24-48hours	13 (16.0%)	3 (11.1%)	10 (18.5%)	
Reached goal in 48-72hours	7 (8.64%)	1 (3.70%)	6 (11.1%)	
Reached goal in 72-96hours	6 (7.41%)	2 (7.41%)	4 (7.41%)	
Reached goal after 96hours	26 (32.1%)	9 (33.3%)	17 (31.5%)	
Kept on trickle feeds	12 (14.8%)	6 (22.2%)	6 (11.1%)	
Patient interruption in EN for >24 hours	57 (70.4%)	17 (63.0%)	40 (74.1%)	0.439
Patient started on a oral diet on top of EN	40 (48.2%)	9 (33.3%)	31 (55.4%)	0.1
Patient started on parenteral nutrition on top of EN	20 (24.1%)	3 (11.1%)	17 (30.4%)	0.1

Regarding local complications, 63.6% of patients developed acute peripancreatic fluid collections, 42.4% developed acute necrotic fluid collections, 12.1% developed pseudocysts, and 27.3% developed walled-off necrosis. A significantly higher proportion of patients receiving late EN developed pancreatic fluid collections (48.2% vs. 22.2%, p = 0.04) and gastrointestinal (GI) complications (75% vs. 48.1%, p-value = 0.03). We also observed that a significantly higher proportion of SAP patients with late EN had a higher length of ICU stay (25.4 vs 14.7 days, p-value = 0.01) and hospital stay (29.5 vs 20.1, p-value = 0.03) than those SAP patients who had EEN. No significant differences were observed between the two cohorts for early systemic complications, including pleural effusion, pneumonia, acute respiratory failure, acute kidney injury, urinary tract infection, sepsis, and multi-organ failure. Similarly, no significant differences were noted for long-term complications, such as the formation of pancreatic fistulas, development of chronic pancreatitis, exocrine pancreatic insufficiency, or new-onset diabetes within 3 years of the index admission. 18.8% of patients passed away during hospitalization, and 4.4% of patients were readmitted with recurrent episodes of AP within a month. A composite outcome including ICU admission, GI complications, early and late local and systemic complications, and mortality demonstrated that EEN was associated with significantly lower rates of these complications than late EN (85.2% vs 98.2%, p = 0.04). **Table 3**

Table 3. Outcome variables	Combined cohort N = 83	Early Enteral Nutrition N = 27	Late Enteral Nutrition N = 56	p-value
Pancreatic fluid collections (PFC):	33 (39.8%)	6 (22.2%)	27 (48.2%)	**0.043**
Early PFC: Acute peripancreatic collection	21 (63.6%)	4 (66.7%)	17 (63.0%)	
Early PFC: Acute necrotic collection	14 (42.4%)	2 (33.3%)	12 (44.4%)	
Late PFC: Pseudocysts	4 (12.1%)	1 (16.7%)	3 (11.1%)	
Late PFC: WON	9 (27.3%)	1 (16.7%)	8 (29.6%)	

Was the fluid collection/necrosis infected	4 (12.1%)	0 (0.00%)	4 (14.8%)	1
Gastrointestinal complications:	55 (66.3%)	13 (48.1%)	42 (75.0%)	**0.03**
Development of RP collections or abscesses	14 (16.9%)	2 (7.41%)	12 (21.4%)	
Development of ascites	44 (53.0%)	9 (33.3%)	35 (62.5%)	
Development of intra-abdominal venous thrombosis	8 (9.64%)	1 (3.70%)	7 (12.5%)	
Development of GI bleed	14 (16.9%)	3 (11.1%)	11 (19.6%)	
Early Systemic Complications:	75 (90.4%)	23 (85.2%)	52 (92.9%)	0.428
Pleural effusion	57 (68.7%)	17 (63.0%)	40 (71.4%)	
Pneumonia	13 (15.7%)	2 (7.41%)	11 (19.6%)	
Acute respiratory failure	51 (61.4%)	13 (48.1%)	38 (67.9%)	
Urinary tract infection	4 (4.82%)	1 (3.70%)	3 (5.36%)	
Sepsis	4 (4.82%)	1 (3.70%)	3 (5.36%)	
Multi organ failure	32 (38.6%)	7 (25.9%)	25 (44.6%)	
Long Term Complications	13 (15.7%)	3 (11.1%)	10 (17.9%)	0.532
Pancreatic fistula	2 (2.41%)	0 (0.00%)	2 (3.57%)	
Chronic pancreatitis	4 (4.82%)	2 (7.41%)	2 (3.57%)	
New diagnosis of diabetes	6 (7.23%)	1 (3.70%)	5 (8.93%)	
Exocrine insufficiency	7 (8.43%)	2 (7.41%)	5 (8.93%)	
ICU admission/transfer	65 (78.3%)	18 (66.7%)	47 (83.9%)	0.133
Length of ICU stay (days)	22.4 (20.8)	14.7 (9.84)	25.4 (23.0)	**0.01**
Length of stay in the hospital (days)	26.4 (20.0)	20.1 (16.5)	29.5 (20.9)	**0.03**
Death during hospitalization	13 (15.7%)	3 (11.1%)	10 (17.9%)	0.53

An internal cost analysis comparing patients with EEN vs. late EN revealed significantly higher total hospitalization costs, total daily costs, total ICU costs, and daily ICU stay costs following AP diagnosis in the late EN cohort.

Discussion

Our findings support EEN (<48 hours) as an effective intervention for improving SAP outcomes and reducing ICU needs, complications, and hospital costs. These results align with previous studies demonstrating EN's protective effects on gut barrier integrity and immune modulation.

Contradictory evidence exists, with some studies finding no differences in infection rates or mortality with EEN. However, variations in study designs, feeding protocols, and patient populations may explain these discrepancies. Our study strengthens the argument for early feeding by demonstrating significant clinical and economic benefits.

To our knowledge, this is the first study comparing the outcomes of EEN versus late EN in patients with predicted SAP within 24 hours of presentation, where EEN is defined as feeding initiated within 48 hours of AP diagnosis, excluding those exclusively started on TPN or PO diet.

Pancreatic necrosis and the resultant organ failure primarily influence outcomes in SAP.[14,15] Both conditions can lead to mortality rates as high as 30%.[1,14,15] Early interventions aim to shorten the duration of organ failure and prevent the onset of infected pancreatic necrosis to improve patient outcomes. Despite several randomized trials exploring pharmacotherapy, antibiotics, and probiotics, none have successfully reduced the incidence of organ failure or infected pancreatic necrosis.[16,17] However, a meta-analysis of RCTs in patients with AP and predicted SAP has shown that EN, when compared to parenteral nutrition, significantly lowers the rates of infectious complications, pancreatic infections, need for surgical interventions, and mortality.[8,16,18,19] The exact mechanism behind these positive clinical outcomes remains unclear. Still, it may be attributed to the immunomodulatory effects of EEN on the body's systemic immune response and maintenance of gut mucosa integrity. However, it is essential to note that these conclusions are based solely on studies comparing EN with TPN, an intervention associated with higher rates of infectious complications, intestinal atrophy, and reduced intestinal barrier function.[1,7]

Our results correlate with prior published data comparing early EN with late EN in managing patients with predicted and confirmed severe SAP.[11] EEN is known to stimulate intestinal blood flow and enhance gut motility, is thought to preserve the intestinal mucosal barrier, prevent bacterial translocation, mitigate inflammation, and potentially decrease the risk of organ failure and infected necrosis, especially in cases of SAP.[1,7,20] A meta-analysis of 15 randomized trials studying initiating EN within 24 hours of admission in critically ill ICU patients demonstrated that it significantly reduced infection rates (RRR: 0.45, 95% CI: 0.30-0.66).[21] Similarly, a systematic review of 15 randomized controlled trials among patients with AP indicated that providing either enteral or parenteral nutrition lowered the risk of death

compared to withholding supplementary nutrition.[22]

Studies show mixed results on early enteral feeding (EEN) in SAP patients, with Wereszczynska et al.[3] observed significant reductions in ICU admissions (3% vs. 15%; p-value = 0.019), infected fluid collections (4.1 vs. 18%, p-value = 0.002), and mortality (0% vs. 9%, p-value = 0.007) when comparing EEN with late EN in SAP patients. A recent study by Sun et al.[23] compared the effects of EEN initiation to late EN (8 days after admission) on immune function. The study found that patients receiving EEN had a significantly lower incidence of SIRS and MOF, but no difference in mortality—however, Stimac et al.[10] found no significant differences in outcomes, such as SIRS development (80.8% vs. 78.1%), mortality (38.5% vs. 50%), systemic and local complications (50.5% vs. 43%), and length of hospital stay (16.6 days vs. 15.5 days), possibly due to high amounts of parenteral fluid resuscitation in the nil-by-mouth group. However, Bakker et al. reported no difference in infection rates (25% vs. 26%) or mortality (11% vs. 7%) between patients receiving early enteral tube feeding within 24 hours and those fed on demand.[11] In contrast, our study demonstrated that EEN reduced pancreatic fluid collections, local GI complications, ICU stay, and hospital length of stay while providing cost-saving benefits, such as lower total, daily hospital, and ICU costs. This suggests that EEN may have a more favorable impact on clinical outcomes and costs than late EN, as evidenced by our findings.

The benefits of EEN stem back to the pathophysiology of AP and its resultant local and systemic complications. In the early stages of acute pancreatitis and SAP, damage to the pancreas triggers a localized inflammatory response with excessive immune response, releasing cytokines, chemokines, neutrophils, and other inflammatory mediators.[24] This inflammatory cascade can extend to distant organs, particularly the gut, causing several pathophysiological changes such as impaired gastrointestinal motility, bacterial overgrowth, reduced arterial blood flow, increased gut mucosal permeability, and bacterial translocation.[25,26] Moreover, patients with SAP exhibit higher intestinal permeability to small molecules (such as sugar probes) and large molecules (like polyethylene glycol) compared to individuals with mild pancreatitis or healthy volunteers.[25] The heightened bacterial translocation further amplifies the systemic inflammatory response and may lead to distant infections, including infected pancreatic necrosis.[27] The protective effect of EN in preserving gut barrier integrity has been shown in a rat model of AP.[7] We did not observe significant differences in infected necrosis incidence (acute necrotic collection: 40% vs. 44%; walled-off necrosis: 20% vs. 32%) or the need for interventions for local complications. This may be due to the routine use of antibiotics in SAP patients for suspected sepsis and the study's design, which was not specifically tailored to assess these outcomes. However, our study's findings are consistent with the pathogenesis of SAP, demonstrating that patients with late EN had significantly higher rates of ICU admission, GI complications, both early and late local and systemic complications, and mortality compared to those receiving EEN.

The American College of Gastroenterology (ACG) guidelines recommend using nasogastric rather than nasojejunal (NJ) route for delivery of EN due to its safety, ease of insertion, efficacy, and tolerance in patients with predicted SAP.[1] While NJ feeding reduces the risk of aspiration pneumonitis and pancreatic stimulation, meta-analyses and RCTs show no significant differences in tolerability, nutritional parameters, mortality, or complications between NG and NJ feeding in SAP patients.[28–32] This is likely due to the reduced pancreatic exocrine function during acute pancreatitis, making NG feeding safe. Our study showed no significant difference in the number of patients receiving pre- versus post-pyloric feeding, which likely did not influence clinical outcomes.

The study has several notable strengths. It represents a novel comparison of early enteral nutrition (EEN) versus late enteral nutrition (EN) in patients with predicted severe acute pancreatitis (SAP) presenting with a BISAP score ≥2 within 24 hours. The cohorts were rigorously defined, with stringent exclusion criteria that ensured homogeneity in disease severity, enhancing the validity of the findings. Furthermore, the study collected a comprehensive range of data, including clinical outcomes and cost analysis, which provide valuable insights into the potential benefits of early feeding, both clinically and economically.

While the study is not without limitations, these are important to contextualize. Its retrospective design may introduce bias and limit control over confounding factors. The relatively small sample size could impact generalizability and statistical power, and excluding patients with incomplete records or those transferred from other hospitals may have introduced selection bias. Additionally, as a single-center study, the findings may not broadly apply to other settings or populations. Finally, the study was not specifically designed to evaluate long-term outcomes. Despite these limitations, the study's strengths provide robust evidence that advances understanding in this area.

Conclusion

Initiation of EEN within 48 hours in predicted SAP patients significantly reduces pancreatic fluid collections, GI complications, ICU/hospital length of stay, and associated healthcare costs. These findings reinforce the importance of early nutritional intervention in SAP management and provide a foundation for revising clinical guidelines to prioritize early enteral feeding. Future studies should assess EEN's long-term benefits, its impact on patient quality of life, and its role in minimizing complications beyond hospitalization.

Conflict of interest statement: Dr. Prabhleen Chahal is a consultant at Boston Scientific. The other authors declare no known conflicts of interest.

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