

Small Intestinal Bacterial Overgrowth in Patients with Acute Pancreatitis: Frequency and Predictors

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INTRODUCTION

- Acute Pancreatitis (AP) is associated with gut barrier dysfunction and bacterial translocation
- Small Intestinal Bacterial Overgrowth (SIBO) in AP may lead to complications including pancreatic and peripancreatic infections, and multi-organ failure leading to worse outcomes
- Prevalence SIBO in AP remains underexplored

AIM

- To determine the frequency of SIBO in patients of AP versus healthy controls
- To evaluate clinical, laboratory, and imaging predictors of SIBO in AP
- To explore the relationship between SIBO prevalence and disease severity

METHODS

- Case-control study (Dec 2022 – Jun 2024)
- 30 AP patients and 60 healthy controls aged 18-60 years
- SIBO assessed using glucose hydrogen breath test (GHBT)
- Diagnostic Criteria: ≥ 12 ppm rise in hydrogen/methane above baseline in ≥ 2 readings
- Univariate and Multivariate analysis performed

SIBO is markedly more prevalent in acute pancreatitis (40% vs 1.7%) and increases with disease severity. Despite multiple associated factors, no independent predictors were identified. Targeting SIBO may represent a novel strategy to improve outcomes in acute pancreatitis.

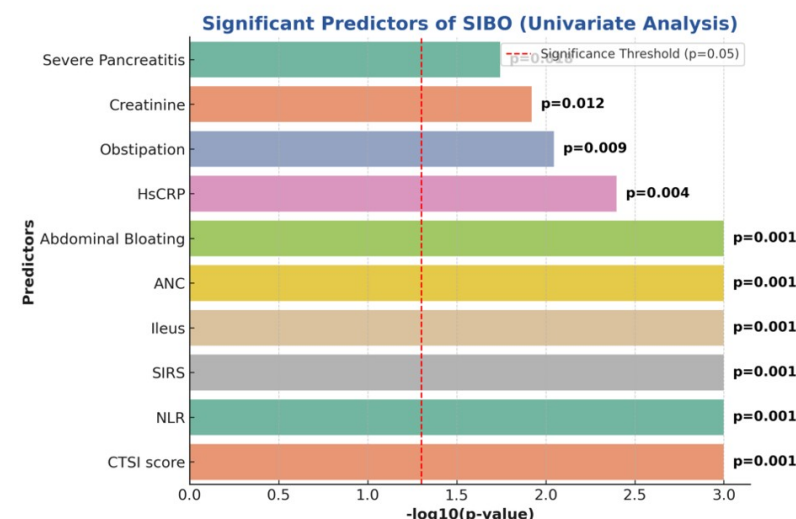
CONCLUSIONS

- SIBO is significantly more prevalent in AP and correlates with disease severity
- Several clinical, biochemical, and imaging parameters in AP patients were associated with SIBO. No single factor independently predicted its presence.
- Larger, multicenter studies are warranted as early detection and targeted treatment for SIBO may have therapeutic implications in AP.

RESULTS

- **Prevalence:** 40% in AP patients vs 1.7% in controls ($p < 0.001$)
- **Severity Association:** Prevalence of SIBO increased with AP severity - 11.1% in mild, 75% in moderately severe, and 100% in severe cases ($p < 0.001$)
- **Symptoms of SIBO in AP:** Constipation (70%), bloating (43.3%), distension (40%), belching (13.3%), flatulence (10%)
- **Methane Producers:** 40% in AP vs 13.3% in controls ($p = 0.004$). Higher basal and peak methane in AP group

Severity of AP (n=30)	SIBO +ve (n=12)	p-value
Mild (n=18)	2 (11.1%)	0.001
Moderate (n=8)	6 (75%)	
Severe (n=4)	4 (100%)	



- **Univariate Analysis:** Abdominal bloating, obstipation, severe AP, systemic inflammatory response syndrome (SIRS), elevated neutrophil-lymphocyte ratio (NLR), creatinine, high-sensitivity CRP (hsCRP), acute necrotic collection (ANC), and computed tomography severity index (CTSI) score were significantly associated with SIBO
- **Multivariate Analysis:** None emerged as independent predictor

LIMITATIONS:

- Small sample size
- Single-center study
- Lack of longitudinal outcomes

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