



General Surgery

EFFECT OF THORACIC EPIDURAL ANALGESIA FOR THE MANAGEMENT OF PAIN IN PATIENTS WITH ACUTE PANCREATITIS

Dr. Suhasini Chippar

Assistant Professor, Department of General Surgery, ESIC Medical College & Hospital, Kalaburagi.

Dr. Arunkumar Chawan

Assistant Professor, Department of General Surgery, ESIC Medical College & Hospital, Kalaburagi.

Dr. Kishori

Assistant Professor, Dept. of anesthesia, ESICMCH Kalaburagi.

ABSTRACT Acute pancreatitis (AP) is a common surgical emergency with significant morbidity and mortality, especially in its severe form. Pain management plays a crucial role in improving outcomes. This prospective randomized study evaluates the efficacy of thoracic epidural analgesia (TEA) in managing pain in patients with severe AP. A total of 100 patients were randomized into two groups: Group E received TEA, and Group O received conventional IV analgesia. Pain was assessed using the Visual Analogue Scale (VAS) at multiple time intervals. The study found statistically significant reductions in VAS scores in Group E compared to Group O from T1 to T7 ($P < 0.001$), indicating superior pain control with TEA. No significant differences were observed in heart rate, systolic or diastolic blood pressure between groups. TEA appears to be a safe and effective modality for pain management in severe AP.

KEYWORDS : Acute Pancreatitis, Thoracic Epidural Analgesia, Pain Management, Visual Analogue Scale, Prospective Study**INTRODUCTION**

Acute pancreatitis is a potentially life-threatening condition characterized by inflammation of the pancreas. While most cases are mild and self-limiting, severe forms can lead to complications such as pancreatic necrosis, ARDS, and MODS. Pain is a predominant symptom and its effective management is essential. Thoracic epidural analgesia has shown promise in improving pancreatic perfusion and reducing disease severity through sympathetic blockade. This study investigates the clinical impact of TEA on pain control and outcomes in patients with severe AP.

OBJECTIVE

To evaluate whether thoracic epidural analgesia improves clinical outcomes and pain control in patients with severe acute pancreatitis.

METHODOLOGY**Study Design**

Prospective randomized study with two groups:

Group E (n=50): Received thoracic epidural analgesia

Group O (n=50): Received IV analgesics (tramadol and paracetamol)

Inclusion Criteria

Diagnosed cases of acute pancreatitis
Consent to participate

Exclusion Criteria

Coagulopathy
Local infection at epidural site
Platelet count $< 80,000$
Refusal to participate

Procedure

VAS scores and vitals were recorded at baseline (T0) and at intervals up to 72 hours (T1–T7). Group E received 0.25% bupivacaine via epidural catheter every 12 hours. Group O received IV analgesics.

Statistical Analysis

Data analyzed using SPSS v22. Tests included Chi-square, Mann-Whitney, Independent t-test, and Repeated Measures ANOVA. $P < 0.05$ was considered statistically significant.

RESULTS**Table 1: Demographic Distribution**

Parameter	Group O (n=50)	Group E (n=50)	P-value
Mean Age (years)	36.58 $\pm$ 11.52	35.62 $\pm$ 13.35	0.44
Male (%)	98%	90%	0.10
Alcoholism (%)	88%	74%	0.07

Table 2: Etiology Of Acute Pancreatitis

Etiology	Group O (%)	Group E (%)	P-value
Alcohol	88	74	0.13
Gall Stone	4	16	
Annular Pancreas	2	0	
Traumatic Pancreatitis	0	4	
Unknown	6	6	

Table 3: Mean VAS Scores Over Time

Time Point	Group O (Mean $\pm$ SD)	Group E (Mean $\pm$ SD)	P-value
T0	8.08 $\pm$ 0.97	7.90 $\pm$ 0.97	0.36
T1	6.74 $\pm$ 0.97	6.18 $\pm$ 1.21	0.01*
T2	6.10 $\pm$ 0.74	5.06 $\pm$ 0.94	< 0.001 *
T3	5.58 $\pm$ 0.58	4.20 $\pm$ 0.88	< 0.001 *
T4	4.64 $\pm$ 0.63	3.34 $\pm$ 0.77	< 0.001 *
T5	3.56 $\pm$ 0.54	2.34 $\pm$ 0.82	< 0.001 *
T6	3.48 $\pm$ 0.54	2.04 $\pm$ 0.57	< 0.001 *
T7	2.98 $\pm$ 0.65	1.74 $\pm$ 0.69	< 0.001 *

* Statistically significant

DISCUSSION

TEA provided superior analgesia compared to IV analgesics. Improved pain control may contribute to better patient comfort and potentially improved outcomes. The findings support the use of TEA in severe AP, aligning with previous studies that suggest enhanced pancreatic perfusion and reduced progression to necrosis.

CONCLUSION

Thoracic epidural analgesia is a safe and effective method for managing pain in patients with severe acute pancreatitis. It significantly reduces VAS scores and may improve clinical outcomes.

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