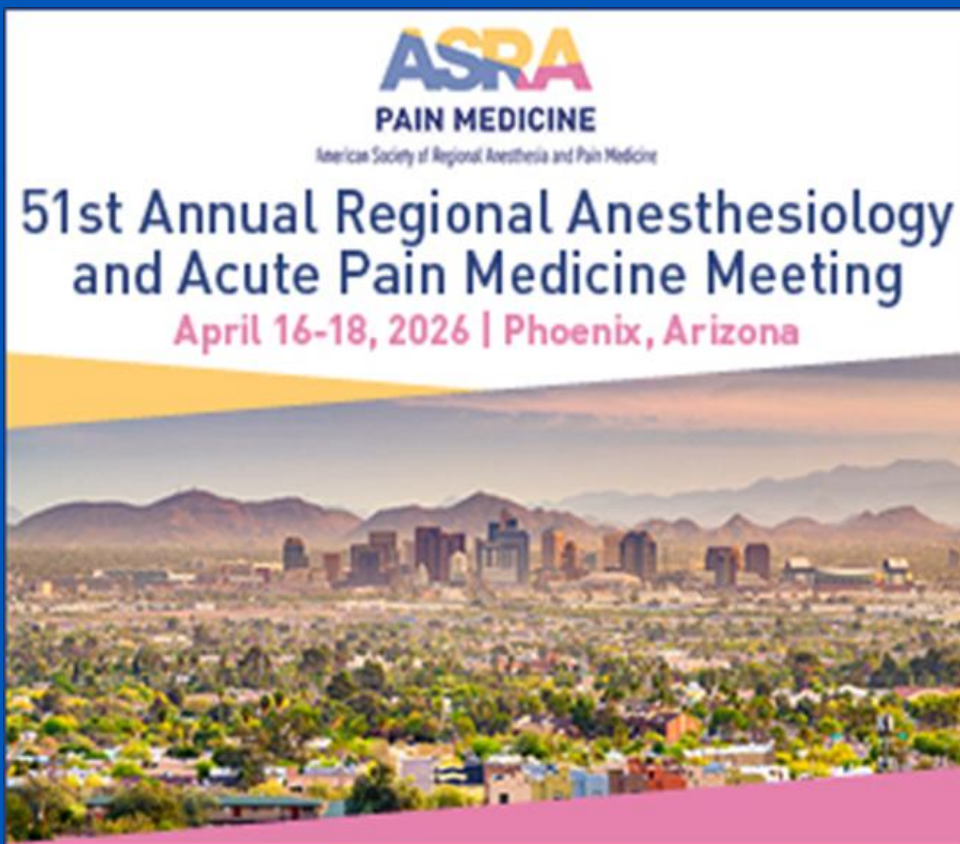




Epidural Versus Non-Epidural Analgesia in Cytoreductive Surgery with Hyperthermic Intraperitoneal Chemotherapy: A Case Series

Naina Singh, MD¹, Matthew Colantonio, MD¹, Ilana Logvinov, PhD, DNP, RN¹, Matheus Montano dos Santos, MD¹, Fatima Serhan, MD¹, Hari Kalagara, MD¹, Tri Dinh, MD¹

¹ Department of Anesthesiology and Perioperative Medicine, Mayo Clinic, Jacksonville, Florida



BACKGROUND

Cytoreductive surgery with hyperthermic intraperitoneal chemotherapy (CRS-HIPEC) is associated with significant postoperative pain, prolonged opioid requirements, delayed gastrointestinal recovery, and increased length of stay. Epidural analgesia may enhance postoperative recovery, but its efficacy and implementation in enhanced recovery after surgery protocols for CRS-HIPEC surgery are not fully defined. This case series compares effects of epidural versus non-epidural analgesia on systemic opioid consumption (MME). Secondary outcomes included hospital length of stay, postoperative pain scores, time to first ambulation, time to first flatus, placement of nasogastric tube and adjuvant analgesics.

METHODS

Retrospective, single-center chart review of adults undergoing exploratory laparotomy for CRS-HIPEC. Patients ≥ 18 years with complete perioperative documentation. Categorical data: Pearson's χ^2 test. Continuous data: mean $\pm$ SD (normally distributed) or median (IQR) (skewed) Group tests: t-tests or Mann–Whitney U tests, based on distribution.

RESULTS

FIGURE 1: PATIENT DEMOGRAPHICS

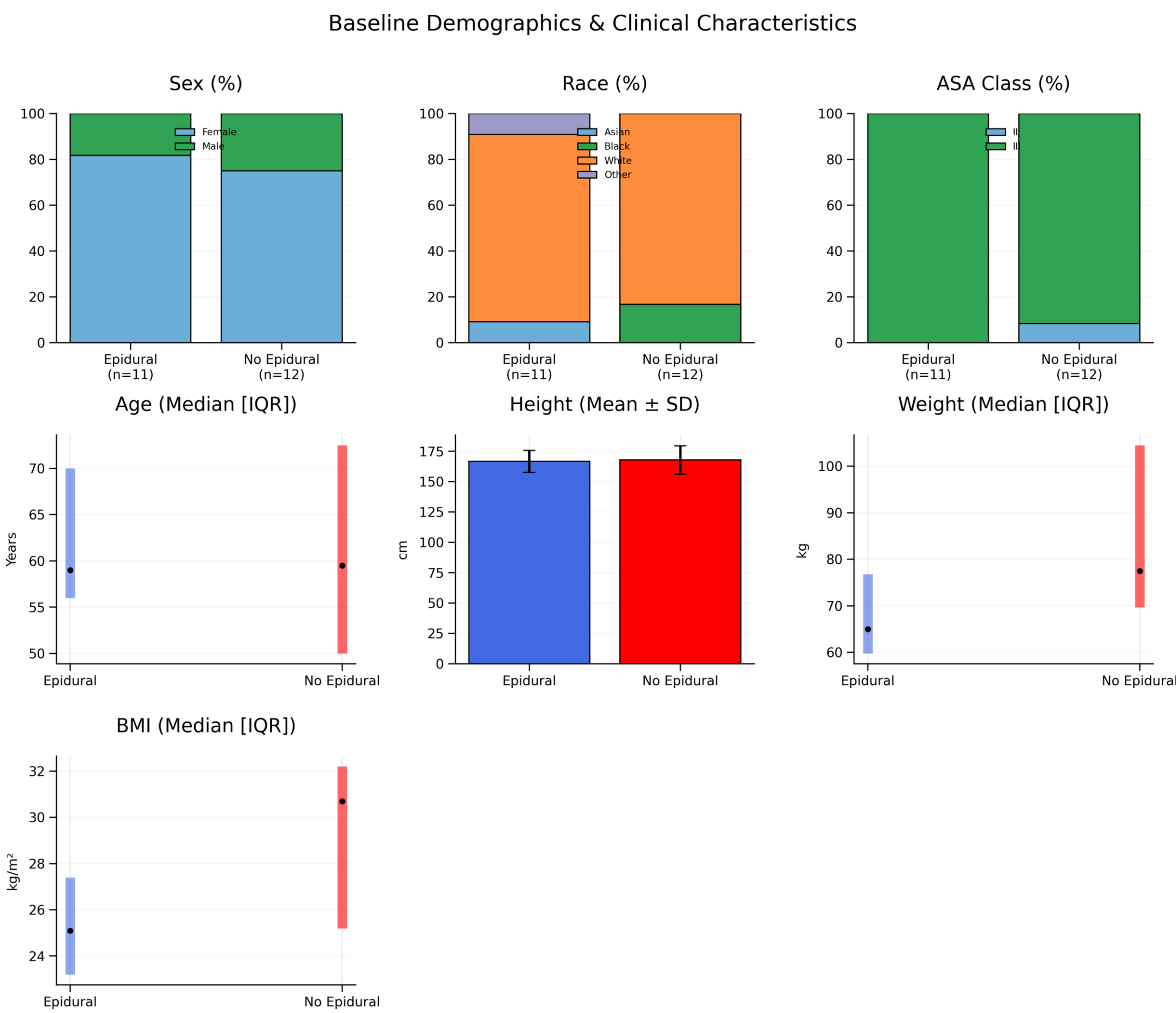


FIGURE 2: PAIN TRAJECTORY

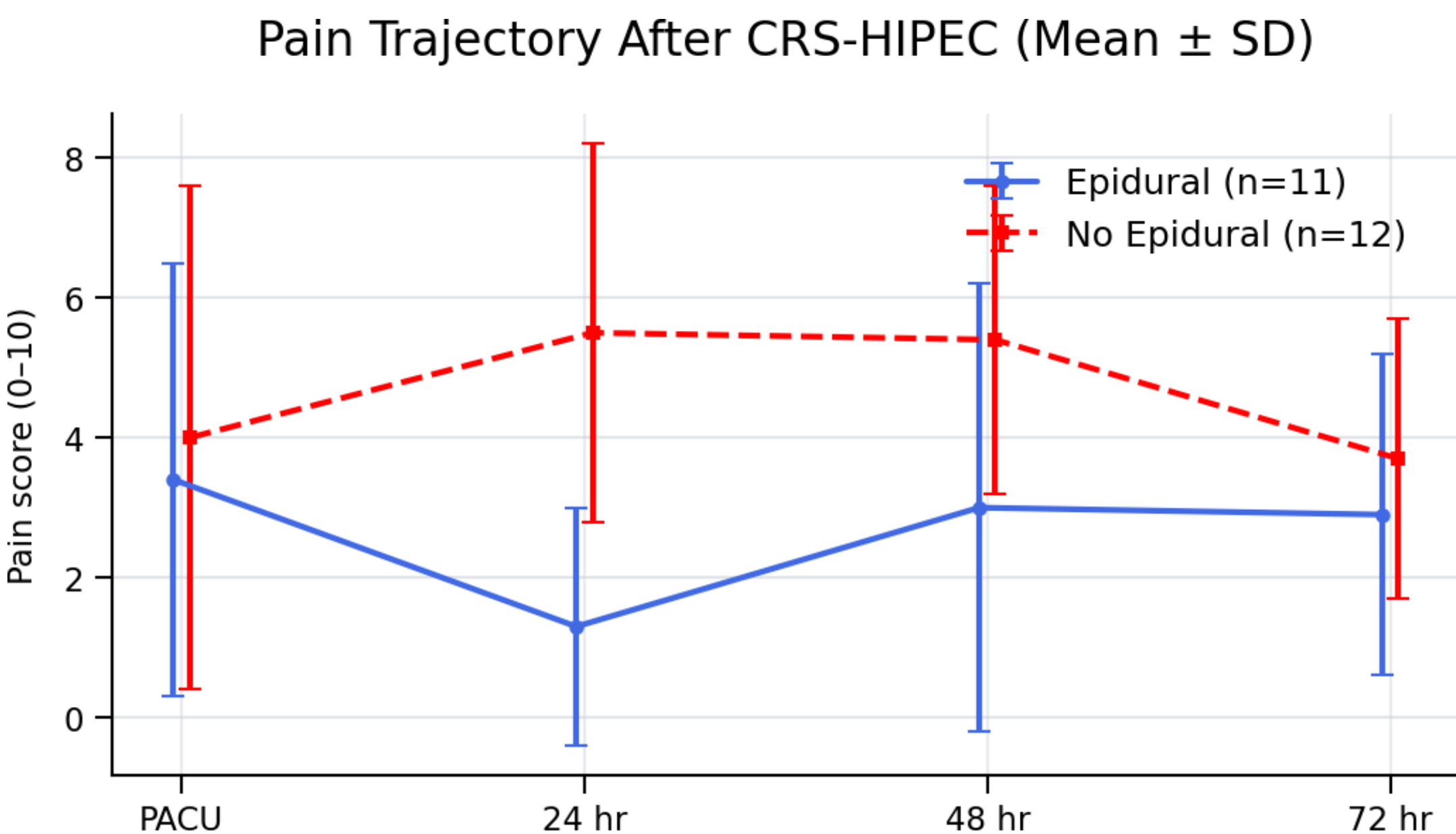


TABLE 2: PATIENT OUTCOMES

Characteristic	Epidural (n =11)	No Epidural (n=12)	P-value
PACU average pain score, mean (SD)	3.4 (3.1)	4.0 (3.6)	0.41
Pain score 24 hrs postop, mean (SD)	1.3 (1.7)	5.5 (2.7)	<.001*
Pain score 48 hrs postop, mean (SD)	3.0 (3.2)	5.4 (2.2)	0.06
Pain score 72 hrs postop, mean (SD)	2.9 (2.3)	3.7 (2.0) ^a	0.47
First ambulation (hrs), mean (SD)	33.5 (15.7)	34.4 (20.1)	0.90
Intraoperative opioids, mean (SD)	51.4 (14.3)	61 (34.3)	0.65
Postoperative opioids, mean (SD)	45.3 (63.7)	272.4 (409.6)	0.04*
Total opioids during hospitalization, mean (SD)	96.7 (72.4)	333.4 (421.7)	0.06
Time to first flatus (hrs), mean (SD)	38.8 (31.9)	62.8 (29.0) ^b	0.05
Hospital length of stay (days), mean (SD)	5 (1.9)	5.8 (2.4)	0.29

SD: standard deviation. Statistically significant at p 0.05. ^a Two patients discharged prior to 72hrs. ^bOne patient discharged prior to documented flatus.

CONCLUSIONS

Thoracic epidural analgesia during CRS-HIPEC: Improves early postoperative pain control, reduces systemic opioid requirements and accelerates gastrointestinal recovery. Use of adjuvant analgesics were comparable between groups. These findings support the consideration of thoracic epidural analgesia as part of a multimodal analgesia pathway for CRS-HIPEC. Larger prospective and multicenter studies are needed to validate these findings and define the role of epidural analgesia with enhanced recovery protocols for CRS-HIPEC.

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