

# Comparative Analysis of Different Methods of Pain Management for Elderly Cancer Patients in the Surgical Intensive Care Unit

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## Abstract

**Introduction:** With technological advancements, more elderly cancer patients are undergoing surgery and need surgical intensive care unit (SICU) care<sup>1</sup>. optimal pain management after operation can not only release cancer and surgical pain but also provide a more stable hemodynamic status which enables shorten length of hospital stay and reduced medical costs<sup>2</sup>. We aimed to determine the pain management method that provided better acute pain control in all-cause elderly cancer SICU patients.

**Objectives:** This retrospective cohort study included a chart review of all-cause cancer patients of a 26-bed SICU (1029-bed medical center) from April 2011 through September 2012. Cancer patients who were unconscious, uncooperative, < 65 years, or had American Society of Anesthesiologists (ASA) classification<III, were excluded.

**Methods:** The primary aim was to compare the visual analogue scale (VAS; 0–100) score between three different methods of pain management, pro re nata intravascular opioid/oral nonsteroidal anti-inflammatory drugs (o/N), intravenous patient-controlled analgesia (PCA), and patient-controlled epidural analgesia (PCEA), under different conditions (rest, movement, and coughing).

**Results:** We chart reviewed 1876 patients and 1675 were excluded . VAS results presented as mean  $\pm$  SD. Data analysis using ANOVA with Scheffe post hoc test. At rest and during movement, the PCEA group exhibited significantly lower pain scores than the other two groups. While coughing, the PCEA and o/N groups showed no difference; both exhibited lower pain scores than the PCA group.

**Conclusion:** PCEA is the recommended acute pain management method for all-cause elderly cancer SICU patients.

**Keywords:** Aged, pain management, patient-controlled analgesia, patient satisfaction, surgical intensive care

Table1. VAS score under three different conditions and patient satisfaction with three different methods of pain management.

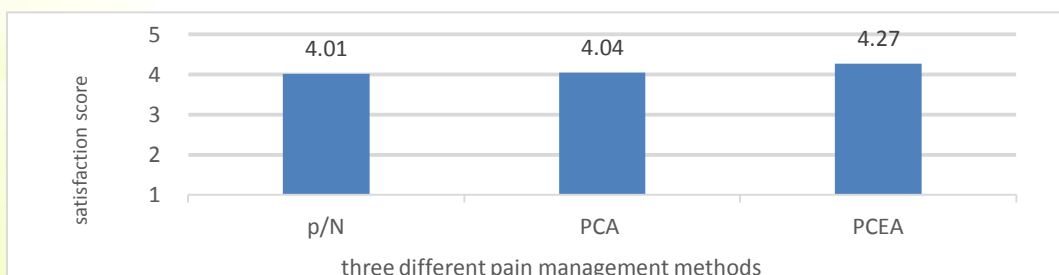
	o/N (n = 95)	PCA (n = 51)	PCEA (n = 55)	p-value
VAS -- Rest	26.20 $\pm$ 14.17**	21.06 $\pm$ 7.87**	11.20 $\pm$ 9.18	< 0.001
VAS -- Movement	44.62 $\pm$ 16.17**	42.98 $\pm$ 11.21**	32.35 $\pm$ 10.88	< 0.001
VAS -- Coughing	53.33 $\pm$ 19.65	60.85 $\pm$ 12.65**	50.20 $\pm$ 13.63	0.005
Patient satisfaction	4.01 $\pm$ 0.26**	4.04 $\pm$ 0.29**	4.27 $\pm$ 0.53	< 0.001

o/N, opioid /Non-steroidal anti-inflammatory drugs; PCA, patient-controlled analgesia; PCEA, patient-controlled epidural analgesia.

Data are presented as mean  $\pm$  SD.

\* Significant difference ( $p < 0.05$ ) compared to o/N.

\*\* Significant difference compared to PCEA.



o/N, opioid /Non-steroidal anti-inflammatory drugs; PCA, patient-controlled analgesia; PCEA, patient-controlled epidural analgesia. Patient's satisfaction score are scored from 1 to 5—with 1 indicating complete dissatisfaction and 5 indicating complete satisfaction

## References

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