

Comparison of Effectiveness of Pre-Incision vs. Post-Incision PECS Block in Pain Management in Breast Reconstruction Surgery:
A Retrospective Cohort Study

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INTRODUCTION

- 1 in 5 (20%) of mastectomy patients continue to use opioids 1 year after surgery
- Patients undergoing reconstruction are more likely to be prescribed opioids
- Pectoralis nerve block type II (PECS II) reduces postoperative pain and opioid need in breast surgery patients
- Traditionally administered preoperatively using ultrasound guidance, the surgeon can perform it intraoperatively with direct visualization of the lateral aspect of the pectoralis major muscle

AIMS AND OUTCOMES

- Primary outcome: To assess postoperative pain scores
- Secondary outcome: To asses opioid need (Oral Morphine Equivalents: OMEs) during admission.

METHODS

- Single-institutional retrospective cohort study
- Female patients undergoing mastectomy and reconstruction (either tissue expander or direct-to-implant) for AJCC 8th edition stage 0-IV breast cancer were included
- All patients received reconstruction at the time of mastectomy, and a PECS II block was administered preoperatively or during the mastectomy with reconstruction
- Time Period: January 2019 to December 2021.
- Patients with autologous or delayed breast reconstruction, chronic pain, or chronic opioid use were excluded from the study

RESULTS

All patients were divided into two cohorts: patients receiving pre-incision PECS II blocks under ultrasound guidance (PRE-PECS) and patients receiving post-incision PECS II blocks under direct visualization during the surgery (POST-PECS).

	PRE-PECS	POST-PECS	p-value
First PACU pain score (median)	0	0	0.572
Highest pain score (median)	8	7	0.046
Last pain score (median)	0	0	0.448
OMEs at 4 hours Median (SD)	9.5 (12.1)	11.2 (12.7)	0.323
OMEs during admission Median (SD)	30.4 (28.7)	25.2 (21)	0.618

	Univariate			Multivariate ⁺		
	Beta	95% CI	p value	Beta	95 %CI	p value
First pain score	0.10	-0.94, 1.15	0.849	-1.15	-2.61, 0.31	0.122
Highest pain score	0.05	-0.69, 0.80	0.887	0.35	-0.54, 1.23	0.445
Last pain score	-0.47	-1.33, 0.39	0.283	0.01	-1.00, 1.02	0.978
OMEs during first 4 hours	0.11	-2.68, 8.06	0.323	0.20	-0.88, 11.04	0.094
OMEs during admission	0.10	-5.42, 15.78	0.334	0.04	-10.66, 14.10	0.783

+ covariates: BMI, stage, operative time, type of mastectomy, type of reconstruction, plane of reconstruction, laterality, local anesthetic, axillary management

CONCLUSION

- PRE- and POST-PECS nerve block appear to offer similar pain control
- OME use was similar between PRE- and POST-PECS blockade
- POST-PECS nerve block did not increase operative time
- Intraoperative surgeon-administered regional nerve blocks can be considered as an alternative option when pre-operative blocks are not possible



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Questions?
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