



Postoperative Outcomes Among Patients Who Receive Interpectoral Nerve Block During Mastectomy



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INTRODUCTION

All patients who undergo mastectomy experience some degree of postoperative pain, often requiring opioids as part of the pain control regimen. The opioid epidemic highlights the need to optimize nonopioid options perioperatively. Nerve blocks are an effective means for analgesia, which has been shown to reduce the use of opioids in the first 24 hours after surgery.¹ While interpectoral nerve blocks (IPNB) have been used during mastectomy, there is limited evidence on their effectiveness following this procedure.

OBJECTIVES

We aim to determine the impact of IPNB in reducing post-mastectomy opioid use, reported pain levels in the immediate post-operative period, and length-of-stay (LOS) after surgery.

METHODS

We retrospectively reviewed records of women who underwent mastectomy for cancer without immediate reconstruction from 10/17-12/19, extracting data on admission morphine milligram equivalents (MME), LOS, and pain scores. Wilcoxon rank sum test and Chi-squared test were used for unadjusted analysis. Multiple linear regression was used to adjust for confounders including age, previous breast surgery, baseline opioid use, and procedure type (mastectomy alone, mastectomy with sentinel lymph node biopsy (SLNB), mastectomy with axillary lymph node dissection (ALND), and bilateral mastectomy). Groups were similar except those with IPNB had significantly more prior breast surgeries (Table 1).

1. Richman JM, et al. Does continuous peripheral nerve block provide superior pain control to opioids? A meta-analysis. *Anesth Analg.* 2006; 102(1):248-57.

This study was generously funded by a donation by Cindybeth Palmgren, NP.

RESULTS

Table 1. Characteristics of patients meeting criteria for analysis

Variable	IPNB (n=37)	Controls (n=68)	p-value
Age, mean (SD)	63.4 (2.4)	62.3 (1.6)	0.69
Previous Breast Surgery, n (%)	14 (38)	1 (1)	<0.01
Baseline Opioid Use, n (%)	2 (5)	9 (13)	0.21
Procedure, n (%)			0.41
Mastectomy only	8 (22)	9 (13)	
Mastectomy and SLNB	13 (35)	20 (29)	
Mastectomy and ALND	11 (30)	31 (46)	
Bilateral Mastectomy	5 (14)	8 (12)	

Table 2. Outcomes comparing primary endpoints between patients who did and did not receive IPNB

Variable	Unadjusted Analysis			Adjusted Analysis		
	IPNB (n=37)	Controls (n=68)	p-value*	Mean Difference	95% Conf. Interval	p-value**
Opioids (MME)	5 (0-19)	17 (4-34)	0.03	-7.7	-19.7 to 4.2	0.20
LOS (hours)	24.4 (20.8-25.7)	26.1 (21.2-41)	0.10	-6.2	-16.4 to 3.9	0.23
Pain (0-6 hours)	0 (0-3)	2 (0-4)	0.06	-0.6	-1.4 to 0.3	0.19
Pain (6-12 hours)	1 (0-3)	2 (0-4)	0.09	-0.8	-2 to 0.3	0.14

Unadjusted data presented as medians and interquartile ranges. MME: morphine milligram equivalents. LOS: length of stay. *Wilcoxon rank sum test. **Multiple linear regression adjusting for age, previous breast surgery, baseline opioid use, surgeon, and additional procedures (SLNB, ALND, bilateral mastectomies).

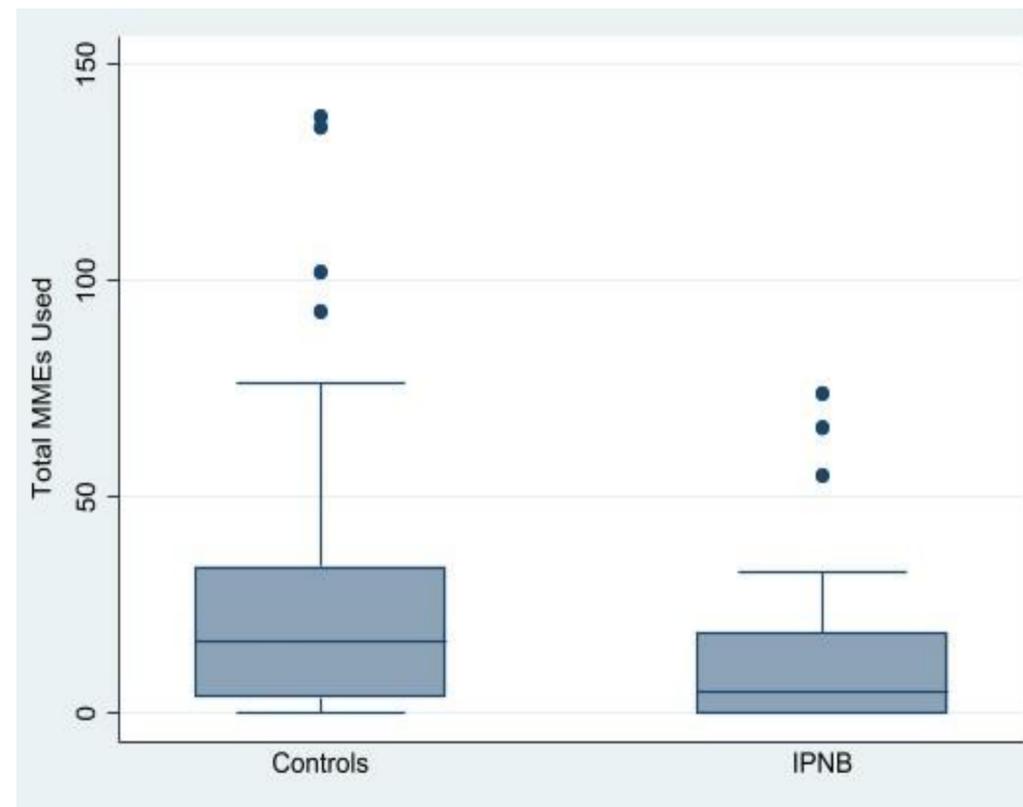


Figure 1: Box plot comparing total MME use in IPNB group vs. controls

105 patients met inclusion criteria, 35% of whom (n=37) underwent IPNB. Unadjusted analysis showed a 71% reduction in median MME requirement among IPNB patients compared to controls as well as significantly reduced pain at 0-6hr and 6-12hr postoperatively (Table 2). These differences, however, were no longer statistically significant in adjusted analysis. As depicted in Figure 1, MME requirements among IPNB patients showed a narrower distribution, significantly shifted towards lower values. There was no difference in LOS. There were no IPNB-related complications.

CONCLUSION

Our early experience shows significantly reduced postoperative opioid use for patients undergoing interpectoral nerve block during mastectomy. Our data can prompt prospective analysis of a larger population to detect small differences and determine which patients benefit the most from this intervention. Variations in medication type, dose, and timing should also be evaluated to optimize use of IPNB as an adjunct for pain control, aimed to minimize opioid use.