Is thoracic interfascial block needed for breast lumpectomy surgery? Yes.

SooKyoung Youn, Boohwi Hong, Yumin Jo, Yeojung Kim, Woosuk Chung, YoungKwon Ko, Yoon-Hee Kim
Chungnam national university hospital, Anesthesiology and pain medicine, Daejeon, Republic of Korea.

Introduction

Lumpectomy involves resection of some subcutaneous tissues and may include sentinel lymph node biopsy or axillary lymph node dissection. Because the extent of lumpectomy are smaller than in other breast surgery, most patients tend not to undergo aggressive pain control after surgery.

However, inadequate pain control may increase opioid consumption, and cause opioid related side effect. We therefore investigated whether the thoracic interfascial plane block is effective in reduction of opioid consumption and pain control after lumpectomy.

Method

A total of 46 patients (20-80 years, female, ASA I-III) with breast cancer scheduled to undergo lumpectomy were randomly assigned to two groups.

Postoperative pain control in the control group consisted only of intravenous patient controlled analgesia (IV-PCA). In the block group, IV-PCA was used after modified pecs 2 (below serratus anterior muscle, 0.375% 20cc) and pectointercostal plane (0.375% ropivacaine 20cc) block after surgery.

The primary outcome was the 24 hours cumulative postoperative fentanyl consumption. Pain severity, additional rescue analgesics requirement, side effect, patients satisfaction were also evaluated.

Result

Postoperative fentanyl consumption in block group was significantly reduced compared with control group (88.8 [48.0;167.6] vs 155.2 [88.8;249.2], $p=0.022$, fig 1).

The postoperative numeric rating scale pain scores were significantly lower in the block group only at PACU (2.9 ± 1.8 vs 4.3 ± 2.3 , $p=0.022$).

There was no differences in the incidence of PONV and in requirement of additional analgesics. Satisfaction score was significantly higher in block group.

Table 1. Demographic data

	Control group (n=24)	Block group (n=22)
Age(yr)	50.5 $\pm$ 9.2	57.9 $\pm$ 12.0
Height (cm)	157.8 $\pm$ 5.1	155.8 $\pm$ 6.9
Weight (kg)	60.9 $\pm$ 8.4	57.5 $\pm$ 7.3
BMI (kg/m ²)	24.5 $\pm$ 3.6	23.7 $\pm$ 2.9
Surgeon (A/B)	13(54.2) / 11(45.8)	13(59.1) / 9(40.9)
Operation time (min)	119.0 [104.0;142.0]	130.0 [110.0;175.0]
Mastectomy change	2(8.3)	5 (22.7)
Axillary node dissection	4(16.7)	7(31.8)
Intraoperative fluid	593.8 $\pm$ 252.5	661.4 $\pm$ 230.9
Smoker	2 (8.3)	1 (4.5)

Data are presented as mean $\pm$ sd, median [interquartile range], number (%).

Table 2. Postoperative NRS pain score and other outcomes

	Control group (n=24)		Block group (n=22)		p value
PACU	4.3 $\pm$ 2.3	4.0 [3.0; 5.5]	2.9 $\pm$ 1.8	3.0 [2.0; 4.0]	0.022
Axillary touch in pacu	4.5 $\pm$ 2.5	4.0 [3.0; 5.5]	3.0 $\pm$ 1.9	3.0 [2.0; 4.0]	0.023
1 hr	4.5 $\pm$ 2.6	4.0 [3.0; 5.5]	3.7 $\pm$ 1.8	3.5 [2.0; 5.0]	0.249
3 hr	3.5 $\pm$ 2.0	3.0 [2.0; 5.0]	3.1 $\pm$ 2.0	3.0 [2.0; 4.0]	0.499
6 hr	2.7 $\pm$ 1.5	2.0 [2.0; 3.5]	2.3 $\pm$ 1.6	2.0 [1.0; 3.0]	0.340
12 hr	2.4 $\pm$ 1.9	2.0 [1.0; 3.0]	2.0 $\pm$ 1.8	1.0 [1.0; 2.0]	0.315
24 hr	1.8 $\pm$ 2.1	1.0 [0.5; 2.0]	1.4 $\pm$ 1.6	1.0 [0.0; 2.0]	0.466
PONV grade	PACU	Ward	PACU	Ward	
0	17 (77.3)	13 (59.1)	20 (83.3)	16 (66.7)	PACU 0.609
1	4 (18.2)	7 (31.8)	2 (8.3)	5 (20.8)	Ward 0.408
2	1 (4.5)	2 (9.1)	1 (4.2)	1 (4.2)	
3	0 (0.0)	0 (0.0)	1 (4.2)	2 (8.3)	
Additional analgesics					0.787
0		17 (70.8)		17 (77.3)	
1		4 (16.7)		3 (13.6)	
2		2 (8.3)		2 (9.1)	
3		1 (4.2)		0 (0.0)	

Satisfaction score 8.0 [7.0; 9.0] 9.0 [8.0;10.0] 0.043
Data are presented as mean $\pm$ sd, median [interquartile range], number (%).

Fig 1. Postoperative fentanyl consumption

Fig 2. Postoperative pain score

Conclusion

Even after lumpectomy that with relatively low pain score after surgery, thoracic interfascial block reduced opioid usage and increased patient satisfaction

Reference

Perioperative Breast Analgesia: A Qualitative Review of Anatomy and Regional Techniques. *Reg Anesth Pain Med* 2017; **42**: 609-31