BRIDGE OVER TROUBLED WATER?

UTILITY OF PARAVERTEBRAL BLOCKADE IN MYOCARDIAL BRIDGE UNROOFING

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Background:

Myocardial bridges are bands of myocardium overlapping coronary arteries, symptomatic bands require surgery due to their potential of morbidity¹. Incidence of chronic pain after thoracotomy² and sternotomy³ are up to 33 and 56% respectively. Paravertebral blocks (PVB) provide effective analgesia in cardiothoracic surgery^{4,5}. Retrospective analysis to investigate the utility with respect to healthcare resource utilization.

Methods:

Case series of 98 patients undergoing myocardial bridge unroofing- 72 patients (73.5%) sternotomy and 26 (26.5%) thoracotomy. For data analysis, sternotomy and thoracotomy groups separated. Sternotomy group: 38 no block and 29 received bilateral PVB's, 5 were excluded. Thoracotomy group: 19 patients unilateral PVB, 6 no blocks, one patient excluded after receiving liposomal Bupivacaine.

Results

Sternotomy patients receiving PVB's had a significantly shorter intensive care unit (ICU) stay, total length of stay was unaffected. Thoracotomy patients receiving PVBs had shorter ICU admissions (and hospitalizations than patients not receiving blocks).

Conclusion

Paravertebral blocks are of potential utility in cardiothoracic surgery for myocardial bridge unroofing. Depending on the surgical approach, they facilitate either shorter ICU admissions or shorter ICU and hospital stays and decrease health care resource utilization.

References:

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Demographic information

	All Patients (n=98)	STERNOTOMY[ST] (n=72)	p-Value (All vs ST)	THORACOTOMY [T] (n=26)	p-Value (All vs T)	p-Value (ST vs T)
Age (mean ± SD)	46.9±14.31	46±14.96	0.62	50±13	0.34	0.21
Height (mean ± SD)	170.7±8.95	170.30±8.84	0.77	171.80±9.35	0.59	0.48
Weight (mean ± SD)	79.1±16.2	78.3±17.06	0.74	82.05±13.16	0.36	0.26
BMI (mean ± SD)	25.9±4.30	26.84±5.08	0.31	27.56±4.35	0.13	0.52
Sex (F/M)	54 /44	41/31		11 /15		
ASA			0.31		0.93	0.91
1	0	0		0		
2	14	9		5		
3	68	52		16		
4	16	11		5		
5	0	0		0		
Length of surgery (min)	197±69.2	192.7 ±65.6	0.65	207.2±77.0	0.57	0.36
CPB	41	35/41=85.3%		N/A		
CPB time (min)	199±70	Mean ±SD		N/A		

Sternotomy patients

	Group CPB- No Block (N=38)	Group CPB-PVB (N=29)	p-values
LOS ICU	1.60±0.82	1.37±0.56	0.02
LOS hospital	4.41±1.14	4.23±1.04	0.07

Thoracotomy patients

	Group No Block (N=6)	Group PVB (n=19)	p-values
LOS ICU	2.2±0.74	1.21±0.71	0.02
LOS hospital	4.16±0.75	3.73±1.04	0.002