



The Effects and Outcomes of Regional Block Anesthesia in Non-Intubated Thoracoscopy



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Background

- Video assisted thoracic surgery (VATS) and thoracoscopy can both treat a variety of pleural diseases
- VATS generally requires general anesthesia
 - Mortality reported up to 21.7% in non-elective cases
- Thoracoscopy can be performed under moderate sedation without intubation
- We aimed to look at the effects of regional anesthesia in thoracoscopy

Methods

- Retrospective chart review
- Patients who underwent medical thoracoscopy from May – June 2022
- Reviewed patients who received pre-operative regional anesthesia
- Patients who declined regional anesthesia during the same time period were reviewed for comparison
- Amount and types of sedation and analgesia intra- and post-operatively were reviewed
- Data was collected and analyzed using SPSS analytical software

Nerve Block Details

- All 12 patients in the regional block group underwent either left or right erector spinae plane nerve block
- Anesthetic used and amount were left to discretion of performing anesthesiologist
 - Average amount given – 18 cc
 - Ropivacaine or bupivacaine mixed with varying amounts of dexmedetomidine

	Regional Block	Moderate Sedation
Number of Patients	12	12
Male:Female Ratio	5:7	6:6
Age	67.3 ± 11.3	65.4 ± 12.4
Diagnosis		
• Malignancy	6	9
• Pleurisy/Pleuritis	5	3
• Chylothorax	1	0

	Regional Block (n=12)	Moderate Sedation (n=12)	p-value
Lidocaine Used (mg)	20.5 ± 7.6	27.4 ± 5.8	0.03

	Regional Block (n=12)	Moderate Sedation (n=12)	p-value
Propofol (mg)	91.2 ± 18.2	185.2 ± 22.1	0.0002
Fentanyl (mcg)	42.4 ± 12.3	95.4 ± 14.2	0.003
Dexmedetomidine (mcg)	12.3 ± 4.5	0	n/a
Midazolam (mg)	2.3 ± 0.7	2.1 ± 0.5	0.4
Phenylephrine (mcg)	101.4 ± 22.2	134.5 ± 56.2	0.02

	Regional Block (n=12)	Moderate Sedation (n=12)	p-value
Oxycodone (mg)	20.5 ± 7.3	26.3 ± 5.2	0.0001
Hydromorphone (mg)	3.8 ± 1.1	6.1 ± 0.9	0.4
Morphine (mg)	2.1 ± 0.8	2.6 ± 1.4	0.8

Results

- n = 24; 12 received regional anesthesia and 12 underwent moderate sedation (Table 1)
- All patients underwent medical thoracoscopy
- Intra-operative lidocaine, propofol, fentanyl and phenylephrine use were significantly lower in the regional anesthesia group (Tables 2-3)
- Midazolam use was similar in both groups and dexmedetomidine was only used in the regional block group
- Post-operative pain medication use was lower in the regional block group, oxycodone use was significantly lower (Table 4)
- Days to discharge was lower in the regional block group (2.4 vs 3.6 days, p = 0.3)

Conclusions

- We present one of the largest data sets investigating regional anesthesia in thoracoscopy
- Our data shows significantly less need for sedation and anesthesia intra-op in those who received regional anesthesia, as well as decreased post-operative pain medication requirement
- **Thoracoscopy offers a potentially safer alternative to VATS given reduced sedation and analgesic needs and may be particularly helpful in patients who may not be fit for general anesthesia**