The Effects of Preoperative Single Dose Pregabalin on Postoperative Pain in Video Assisted Thoracoscopic Surgery: A Randomized, Double blind, Placebo Controlled study

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Background: Pain after video-assisted thoracoscopic surgery (VATS) is common. Multiple randomized trials show the preoperative use of Pregabalin reduced postoperative requirement of opioids. However, the clinical efficacy for the patients undergoing VATS is still unknown. We therefore tested the hypothesis that preoperative oral single dose of Pregabalin reduces postoperative pain and opioid requirement after VATS.

Methods: In this double-blind trial, 59 patients having elective VATS were randomly allocated to receive either 150 mg of Pregabalin (Pr group; 30 patients) or placebo (P group; 29 patients) two hours before surgery. Postoperative pain scores on a 0-10 visual analogue scale (VAS) were measured at 2, 6,12 and 24 hours after surgery. Morphine consumption at 2, 6, 12 and 24 hours for each patient was recorded. Differences in pain score and morphine consumption between groups were analyzed using Fisher exact test, T-test.

Results: The mean VAS in Pregabalin group was significantly lower than the placebo group at 2 hours (5.2±2.2 and 6.9±1.5, p=0.002) and 24 hours (2.8±1.4 and 4.5±2.2, p=0.001) but no significant difference at 6 and 12 hours after surgery. Morphine consumption in the Pregabalin group was significantly lower than the placebo group at 2 hours, 6 hours and 12 hours (P<0.05), but no difference between the groups at 24 hours after surgery. Nausea and vomiting in the placebo group was more common in Pregabalin group (P<0.05).

Conclusion: 150 mg preoperative single oral dose of Pregabalin reduces postoperative pain and morphine consumption in patients undergoing VATS. Significant side effects were not observed.

Table 1 patient characteristics

Variables	Pregabalin group N=30	Placebo group N= 29	p-value
Gender, n(%)			0.291
Female	14 (48.3)	18 (62.1)	
Male	15 (51.7)	11 (37.9)	
Age (year, mean±SD)	57.9±18.2	52.3±10.4	0.152
Body weight (kg, mean±SD)	56.3±10.4	56.0±12.8	0.933
ASA classification			0.090
Class 1	9 (30.0)	5 (17.2)	
Class 2	16 (53.3)	23 (79.3)	
Class 3	5 (16.7)	1 (3.5)	
Diagnosis			0.735
Benign lung disease	9 (30.0)	6 (20.7)	
Malignant lung disease	12 (40.0)	16 (55.2)	
Pleural disease	6 (20.0)	5 (17.2)	
Mediastinal disease	3 (10.0)	2 (6.9)	
Procedures			0.133
Lung procedures	21 (70.0)	13 (44.8)	
Pleural procedures	5 (16.7)	9 (31.0)	
Both lung and pleural procedures	1 (3.3)	5 (17.2)	
Mediastinal procedures	3 (10.0)	2 (6.9)	
Duration of operation (minutes, median(IQR))	95 (70-120)	75 (60-110)	0.154

Table 2 Pain scores and morphine consumption in post-operative period

Variables	Pregabalin group N=30	Placebo group N= 29	p-value
Pain score at postoperative period (mean±SD)			
2 hours	5.2±2.2	6.9±1.5	0.002
6 hours	4.8±2.2	5.0±1.9	0.755
12 hours	3.7±1.9	4.0±1.8	0.542
24 hours	2.8±1.4	4.5±2.2	0.001
Morphine consumption (mg) (median (IQR))			
2 hours	3 (0-6)	6 (3-6)	0.022
6 hours	3 (0-5)	0 (0-3)	0.049
12 hours	3 (0-4)	0 (0-3)	0.017
24 hours	0 (0-3)	3 (0-6)	0.075

ASA=American Society of Anesthesiologists