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Video-Assisted Thoracoscopic Surgery For The First Episode of Primary Spontaneous Pneumothorax

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Objectives: The aim of this study was to evaluate the use of a videothoracoscopic surgical [VATS] approach as the "first-line" treatment for PSP.

Methods: We observed 60 patients with a first episode of PSP and 56 patients with recurrent PSP who had undergone prior chest tube application. Surgery was done in the first 24 hours after hospital admission. We applied VATS technique to perform wedge resection and apical pleurectomy. Duration of hospital stay and pneumothorax recurrence rate were recorded. Pain level was assessed on the fifteenth day after surgery using the numerical rating scale [NRS]. Recurrent pneumothorax patients who were treated with chest tube application after their first episode were asked to evaluate their preference for surgery over chest tube via a questionnaire.

Results: One hundred - sixteen patients who were diagnosed with pneumothorax and underwent surgery with VATS technique between January 2016 and January 2018 were included in the study. Intraoperative bleb/bullous structures were detected in 102 (87.93%) of 116 patients. In the questionnaire of 56 patients with recurrent pneumothorax who had previously undergone chest tube, 44 (78.6%) stated that they would immediately accept operation instead of the chest tube, if recommended. The length of hospitalization was significantly less in patients who underwent surgery in the first episode. There was no statistical difference between pain scores. There was significant association between knowledge of recurrence and anxiety (p=0.009). There was also significant association between anxiety and acceptance of the surgery (p=0.0001). Interestingly though, we did not find any significant association between knowledge of recurrence and acceptance of surgery (p=0.114).

Conclusion: Employing VATS as the first-line treatment for PSP provides benefits of early return to normal daily life, better clinical satisfaction, and psychosocial outcomes. Patients reported higher rates of anxiety with chest tube application. Regardless of prior chest tube application status, the vast majority of patients tended to accept surgery if recommended. This suggests that surgery for the first episode of pneumothorax is a powerful alternative to the chest tube.

Keywords: Anxiety, chest tube, pneumothorax, VATS