Nonintubated Uniportal Thoracoscopic Surgery for Peripheral Lung Nodules

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Purpose:
Uniportal video-assisted thoracoscopic surgery (VATS) is recently introduced for various thoracic diseases. However, management of peripheral lung nodules by uniportal VATS, without tracheal intubation, has rarely been attempted. We evaluated the feasibility and safety of nonintubated uniportal VATS for peripheral lung nodules.

Materials and Methods:
From January 2014 to March 2014, 32 patients with indeterminate peripheral lung nodules underwent uniportal VATS without tracheal intubation using a combination of intercostal nerve block, intrathoracic vagal block and target-controlled sedation. Computed tomography-guided dye-localization was sometimes used to identify small or ground-glass opacity lesions.

Results:
A definite diagnosis was obtained in all 32 patients, of whom wedge resection was performed in 31 and lobectomy in 1. Conversion to conventional 3-port VATS was required in 4 patients (13%) because of primary lung cancer requiring further resection for adequacy of margins in 3, and difficulty in identifying the small nodule in 1. One patient (3%) required conversion to intubated one-lung ventilation because of vigorous mediastinal movement. Operative complications developed in 2 patients who had an air leak for more than 3 days postoperatively. The median duration of postoperative chest tube drainage and mean hospital stay were 1 and 3 days, respectively. Postoperative neuralgia was noted in 12 patients (37%). Nearly all patients (97%) were very satisfied or satisfied with the resulting scars.

Conclusion:
Nonintubated uniportal VATS are technically feasible and safe to provide selected patients a less invasive alternative in managing their indeterminate peripheral lung nodules.