

Background/Hypothesis

Chest drains have routinely been used in thoracic surgery, but there may be potential adverse outcomes with the use of chest drains such as increased pain, risk of infections (pneumonia and empyema), and length of stay may be prolonged.

Methods

From February 2015 until August 2015, 49 consecutive patients scheduled for a Video Assisted Thoracoscopic Surgery (VATS) wedge resection of suspicious pulmonary nodules were included in the study. The inclusion criteria were: Forced expiratory volume in 1 second (FEV1) ≥ 60 % of expected, FEV1/forced vital capacity (FVC) ≥ 70 % of expected, tumour diameter ≤ 2 cm, distance from tumour to visceral pleura ≤ 3 cm, ≤ 2 separate wedges, no air leak on an intraoperative air leakage test and absence of severe adhesions, bullous/emphysematous disease, pleural effusion and coagulopathy. Chest x-rays were taken in the immediate post-operative setting and 8 hours after surgery. Patients were followed prospectively to evaluate 30.day post-operative outcome.

Results

Forty-nine patients underwent VATS wedge resections without the use a post-operative chest drain. None of the patients required treatment for pneumothorax, subcutaneous emphysema or bleeding. A small pneumothorax with a mean size of 12 mm (SD: 12mm) was observed in 30 (59 %) patients on postoperative x-ray. There were no complications on 30.day follow up. Median length of stay was 1 day (25th-75th percentile: 1-2 days).

Conclusions

A VATS wedge resection for suspicious pulmonary nodules without a post-operative chest drain may be safe in a selected group of patients.