Are Chest Drains Routinely Required After Thoracic Surgery? A Study of On-table Chest Drain Removals

Objectives
Advances in peri-operative management for thoracic surgery have accelerated the post-operative recovery of patients by decreasing postoperative pain and the incidence of complications. We aim to study if safe to remove chest drains on table, in selected cases.

Methods
A 5-year retrospective analysis of protocolised chest drain removal on the operating table. The chest drain was removed in patients undergoing sub lobar/wedge lung resection and other minor thoracic procedure (pleural biopsy, mediastinal mass biopsy/resection) via a thoracoscopic approach (video assisted thoracoscopic surgery). Chest drains were removed at the end of the operation if air leak as documented by the digital drain was less than 20ml/min. Outcome data on post-drain removal pneumothorax, effusion and need for further intervention were obtained by reviewing the postoperative chest films, all reported by a radiologist.

Results
Between 2016 and 2021, 107 patients underwent drain removal in theatre. Mean age (SD) was 58 (17) years and 54 (50.5%) were male. Post-drain removal pneumothorax occurred in 22 patients (21%, 22/107), pleural effusion in 6 (5.6%, 6/107). Of all cases, only 1 patient (0.9%, 1/107, 95% CI 0.2 to 5.1%) had to have a drain reinserted as we do not tolerate any degree of air after pneumothorax surgery. The median (IQR) length of hospital stay was 1 day (1-2) and 14 patients (13%) were discharged on surgery day.

Conclusions
Our results demonstrate that on table chest drain removal in selected cases is safe and repeatable using a digital drain, challenging the practice of routine drain insertion after thoracic surgery.

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Additional Resources
- https://files.aievolution.com/prd/aat2101/abstracts/abs_4954/Table1.docx