

Table 1

| Year of operation | Patients, n (%) | Patient age at operation (years), mean \pm SD | Primary surgeons, n | Individual procedures, n (%) | Length of operation (minutes), mean \pm SD | Conversions, n (%) |
|-------------------|-------------------------------|---|---------------------|--|--|--------------------|
| 2008 | Total: 15 Male: 10 (66.6) | 71.2 \pm 2.1 | 2 | S1: 8 (53.3) S2: 7 (46.6) | 229.87 \pm 15.9 | 2 (13.3) |
| 2009 | Total: 24 Male: 12 (50.0) | 67.79 \pm 1.7 | 2 | S1: 12 (50.0) S2: 12 (50.0) | 216.88 \pm 10.3 | 3 (12.5) |
| 2010 | Total: 23 Male: 11 (47.8) | 64.70 \pm 2.1 | 2 | S1: 10 (43.5) S2: 13 (56.5) | 177.78 \pm 9.3 | 2 (8.7) |
| 2011 | Total: 49 Male: 18 (36.7) | 67.51 \pm 1.4 | 3 | S1: 13 (26.5) S2: 24 (49.0) S3: 12 (24.5) | 173.07 \pm 7.0 | 0 (0.0) |
| 2012 | Total: 53 Male: 25 (47.2) | 65.62 \pm 1.3 | 3 | S1: 21 (39.6) S2: 23 (43.4) S3: 9 (13.2) | 179.00 \pm 8.2 | 3 (5.7) |
| 2013 | Total: 75 Male: 38 (50.7) | 68.04 \pm 1.0 | 4 | S1: 36 (48.0) S2: 20 (26.7) S3: 8 (10.7) S4: 11 (14.7) | 156.43 \pm 5.7 | 7 (9.3) |
| 2014 | Total: 97 Male: 45 (46.4) | 68.04 \pm 0.8 | 4 | S1: 34 (35.1) S2: 21 (21.6) S3: 41 (42.3) S5: 1 (1.0) | 157.94 \pm 4.6 | 12 (12.4) |
| 2015 | Total: 83 Male: 37 (44.6) | 69.00 \pm 0.7 | 5 | S1: 22 (26.5) S2: 21 (25.3) S3: 27 (32.5) S5: 5 (6.0) S6: 8 (9.6) | 152.60 \pm 5.4 | 1 (1.2) |
| 2016 | Total: 123 Male: 60 (48.8) | 66.66 \pm 0.7 | 5 | S1: 24 (19.5) S2: 32 (26.0) S3: 29 (23.6) S5: 1 (0.8) S6: 37 (30.1) | 144.70 \pm 4.0 | 7 (5.7) |
| 2017 | Total: 130 Male: 66 (50.7) | 68.74 \pm 0.6 | 5 | S1: 39 (30.0) S2: 25 (19.2) S3: 29 (22.3) S5: 8 (6.2) S6: 29 (22.3) | 135.36 \pm 4.2 | 7 (5.4) |
| 2018 | Total: 162 Male: 70 (43.2) | 68.69 \pm 0.7 | 5 | S1: 20 (12.3) S2: 37 (22.8) S3: 41 (25.3) S5: 12 (7.4) S6: 52 (32.1) | 144.78 \pm 5.0 | 2 (1.2) |
| 2019 | Total: 145 Male: 69 (47.6) | 69.95 \pm 0.6 | 5 | S1: 22 (15.2) S3: 51 (35.2) | 148.26 \pm 4.1 | 5 (3.4) |

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|-------|-------------------------------|-------------|---|--|--------------|---------|
| | | | | S5: 21 (14.5) S6: 47 (32.4) S7: 4 (2.8) | | |
| 2020 | Total: 188 Male: 80 (42.6) | 68.30 ±0.6 | 5 | S1: 32 (17.0) S3: 66 (35.1) S5: 32 (17.0) S6: 56 (29.8) S7: 2 (1.1) | 127.76 ± 3.4 | 7 (3.7) |
| 2021 | Total: 197 Male: 98 (49.7) | 68.65 ±0.6 | 8 | S1: 31 (15.7) S3: 33 (16.8) S5: 33 (16.8) S6: 57 (28.9) S8: 38 (19.3) S9: 3 (1.5) S10: 1 (0.5) S11: 1 (0.5) | 127.39 ± 3.2 | 9 (4.6) |
| 2022 | Total: 225 Male: 89 (39.6) | 69.68 ± 0.5 | 9 | S1: 40 (17.8) S3: 40 (17.8) S5: 43 (19.1) S6: 55 (24.4) S9: 9 (4.0) S10: 8 (3.6) S12: 8 (3.6) S13: 20 (8.9) S14: 1 (0.4) | 124.85 ± 2.9 | 4 (1.8) |
| 2023* | Total: 118 Male: 58 (66.6) | 70.05 ± 0.7 | 6 | S1: 22 (18.6) S3: 25 (21.2) S5: 22 (18.6) S6: 31 (26.3) S13: 14 (11.9) S15: 4 (3.4) | 122.49 ± 4.2 | 3 (2.5) |

Baseline characteristics of all lung cancer patients undergoing VATS lobectomy between March 3rd, 2008, and July 6th, 2023, at the Department of Cardiothoracic and Vascular Surgery, Aarhus University Hospital (AUH), Denmark, by year of operation.

Abbreviations: S = Surgeon; SD = Standard deviation

Table 2

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|---|---|
| <p>C1 postoperative complications before hospital discharge (n = 23, 40.4%)</p> <p>CDC II (n = 11, 19.3%)</p> <ol style="list-style-type: none"> New onset atrial fibrillation requiring pharmacologic treatment (n = 4) Cicatricial defect requiring minor intervention (n = 1) Pneumonia requiring antibiotic treatment (n = 4) Hemothorax requiring thrombolytic treatment (n = 1) Superficial wound infection treated with antibiotics (n = 1) <p>CDC IIIa (n = 5, 8.8%)</p> <ol style="list-style-type: none"> Pneumothorax requiring extra chest tube insertion (n = 4) Chylothorax requiring extra chest tube insertion (n = 1) <p>CDC IIIb (n = 2, 3.5%)</p> <ol style="list-style-type: none"> Intrathoracic bleeding requiring revision by VATS (n = 1) Air leakage and empyema requiring revision by thoracotomy (n = 1) <p>CDC IVa (n = 4, 7.0%)</p> <ol style="list-style-type: none"> Mechanical ventilation required (n = 4) <p>CDC IVb (n = 1, 1.8%)</p> <ol style="list-style-type: none"> Ischemic stroke resulting in chronic unilateral hypotonia (n = 1) | <p>C1 postoperative complications after hospital discharge (n = 11, 19.3%):</p> <p>CDC I (n = 7, 12.3%)</p> <ol style="list-style-type: none"> Prolonged pain requiring prolonged need of analgesics (n = 7) <p>CDC IIIa (n = 3, 5.3%)</p> <ol style="list-style-type: none"> Pneumothorax requiring admission and chest tube insertion (n = 1) Pleural empyema conservatively treated with antibiotics and drainage (n = 2) <p>CDC IIIb (n = 1, 1.8%)</p> <ol style="list-style-type: none"> Pneumothorax requiring revision by thoracotomy (n = 1) <p><i>Patients reporting ≥ 2 postoperative complications requiring treatment: 19</i></p> <p>C1 perioperative conversions to thoracotomy (n = 7, 12.3%):</p> <ol style="list-style-type: none"> Perioperative bleeding requiring conversion to thoracotomy (n = 4) Anatomical difficulties around blood vessels requiring perioperative conversion to thoracotomy (n = 2) Tumor infiltration in v. cava superior requiring perioperative conversion to thoracotomy (n = 1) |
| <p>C2 postoperative complications before hospital discharge (n = 15, 26.3%)</p> <p>CDC I (n = 1, 1.8%)</p> <ol style="list-style-type: none"> Lesion of N. Thoracicus Longus causing movement restriction (n = 1) <p>CDC II (n = 8, 14.0)</p> <ol style="list-style-type: none"> New onset atrial fibrillation requiring pharmacologic treatment (n = 1) Pneumonia requiring antibiotic treatment (n = 1) Hemothorax requiring thrombolytic treatment (n = 1) Undiagnosed infection requiring antibiotic treatment (n = 4) Cicatricial defect requiring minor intervention (n = 1) <p>CDC IIIa (n = 2, 3.5%)</p> <ol style="list-style-type: none"> Pneumothorax requiring extra chest tube insertion (n = 2) <p>CDC IIIb (n = 3, 5.3%)</p> <ol style="list-style-type: none"> Air leakage requiring revision by VATS (n = 2) Intrathoracic bleeding requiring revision by thoracotomy (n = 1) <p>CDC IVa (n = 1, 1.8%)</p> <ol style="list-style-type: none"> Mechanical ventilation required (n = 1) | <p>C2 postoperative complications after hospital discharge (n = 12, 21.1%)</p> <p>CDC I (n = 5, 8.8%)</p> <ol style="list-style-type: none"> Prolonged pain requiring prolonged need of analgesics (n = 6) <p>CDC II (n = 1, 1.8%)</p> <ol style="list-style-type: none"> Cicatricial defect requiring admission and minor intervention (n = 1) <p>CDC IIIa (n = 4, 7.0%)</p> <ol style="list-style-type: none"> Pneumothorax or pleural effusion requiring admission and chest tube insertion (n = 3) Pleural empyema conservatively treated with antibiotics and drainage (n = 1) <p>CDC IIIb (n = 1, 1.8%)</p> <ol style="list-style-type: none"> Incomplete resection requiring reoperation by thoracotomy (n = 1) <p><i>Patients reporting ≥ 2 postoperative complications requiring treatment: 10</i></p> <p>C2 perioperative conversions to thoracotomy (n = 3, 5.3%):</p> <ol style="list-style-type: none"> Perioperative bleeding requiring conversion to thoracotomy (n = 2) Anatomical difficulties around blood vessels requiring perioperative conversion to thoracotomy (n = 1) |
| <p>C3 postoperative complications before hospital discharge (n = 19, 33.3%):</p> <p>CDC II (n = 12, 21.1%)</p> <ol style="list-style-type: none"> New onset atrial fibrillation requiring pharmacologic treatment (n = 2) Undiagnosed infection requiring antibiotic treatment (n = 6) Cholecystitis requiring antibiotic treatment (n = 1) Cicatricial defect requiring minor intervention (n = 2) Lung embolism requiring pharmacologic treatment (n = 1) <p>CDC IIIa (n = 5, 8.8%)</p> <ol style="list-style-type: none"> Pneumothorax requiring extra chest tube insertion (n = 3) Pleural effusion requiring pleurodesis and/or extra chest tube insertion (n = 2) <p>CDC IIIb (n = 2, 3.5%)</p> <ol style="list-style-type: none"> Air leakage requiring revision by thoracotomy (n = 1) Intrathoracic bleeding requiring revision by VATS (n = 1) | <p>C3 postoperative complications after hospital discharge (n = 6, 10.5%):</p> <p>CDC I (n = 2, 3.5%)</p> <ol style="list-style-type: none"> Prolonged pain requiring prolonged need of analgesics (n = 2) <p>CDC IIIa (n = 2, 3.5%)</p> <ol style="list-style-type: none"> Pneumothorax or pleural effusion requiring admission and chest tube insertion (n = 2) <p>CDC IIIb (n = 2, 3.5%)</p> <ol style="list-style-type: none"> Ileus requiring admission and endoscopic intervention (n = 1) Pleural empyema requiring VATS (n = 1) <p><i>Patients reporting ≥ 2 postoperative complications requiring treatment: 2</i></p> <p>C3 perioperative conversions to thoracotomy (n = 3, 5.3%):</p> <ol style="list-style-type: none"> Massive adhesions requiring conversion to thoracotomy (n = 2) Reduced overview requiring perioperative conversion to thoracotomy (n = 1) |

A detailed description of conversions and postoperative complications after VATS lobectomy for each subcohort (C1, C2, and C3). Postoperative complications are classified according to the Clavien-Dindo Scale of Surgical Complications (CDC); thus, only the most severe complication for each patient is presented. □ □ Abbreviations: CDC = Clavien-Dindo Scale of Surgical Complications; C = Subcohort; VATS = video-assisted thoracoscopic surgery