

| Outcome | All (N=140) | T (N=54) | S (N=64) | C (N=22) |
|---|----------------|----------------|-----------------|-----------------|
| Bleeding first 24, mL, median [Q1; Q3] | 443 [250; 875] | 350 [225; 525] | 641 [354; 1224] | 525 [258; 1032] |
| Mechanical ventilation duration, h, median [Q1; Q3] | 28 [15; 55] | 20 [14; 29] | 37 [15; 70] | 50 [34; 74] |
| ICU length of stay, h, median [Q1; Q3] | 104 [63; 216] | 80 [57; 156] | 123 [80; 245] | 119 [86; 284] |
| Pain scores, mean (SD) | 0.61 (0.77) | 0.87 (0.83) | 0.47 (0.76) | 0.36 (0.49) |
| IV opioid analgesia | 137 (97.86%) | 53 (98.43%) | 63 (98.44%) | 21 (95.45%) |
| Epidural analgesia | 42 (30%) | 22 (40.74%) | 7 (10.9%) | 13 (59.09%) |

(632)

Bilateral Lung Transplantation in Severe Chest Asymmetry: Case Series from a Single Center

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Purpose: Suppurative lung disease, such as bronchiectasis and cystic fibrosis, are typical indications for bilateral lung transplantation. Some cases may present a severe chest asymmetry as a sign of recurrent infections. To treat this condition, pneumonectomy and a single lung transplantation is a feasible option, even if this type of surgery is associated with a high complication risk. A second option is bilateral lung transplant with surgical reduction of the graft implanted in the smaller pleural cavity.

Methods: From 2017 to 2021 five patients with significant pleural cavities asymmetry where referred to our centre and underwent bilateral lung transplantation. One patient was affected by bronchiectasis and four by cystic fibrosis. Table 1 shows patients data.

Results: Surgery was performed by means of a clamshell incision through the fourth intercostal space. Three patients where bridged to transplant on VV-ECMO. Graft reduction was not necessary due to median realignment of the mediastinum. All patients were extubated within the second postoperative day. Mean ICU stay was 4 days. Postoperative radiological evaluation did not show clustering or atelectasis of graft implanted in the smaller hemithorax (picture). No major complications were recorded and the average length of hospital stay was 23.8 days. Patients are currently alive at 4,8,12,17 and 40 months after transplantation with excellent functional recovery (mean best FEV1 88.4%).

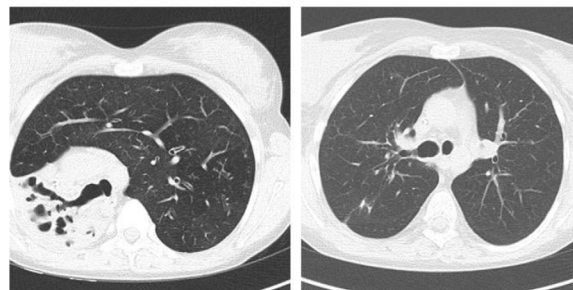
Conclusion: Bilateral lung transplantation in patients with severe chest asymmetry is a possible procedure, with good functional results even without sacrificing part of graft parenchyma.

| Patient data | | | | | |
|---------------------------|-------|-------|-------|-----------------|-------|
| Patient | 1 | 2 | 3 | 4 | 5 |
| Age | 40 | 17 | 27 | 48 | 19 |
| Disease | CF | CF | CF | Bronchiectasies | CF |
| LAS | 62.11 | 40.81 | 34.43 | 81.16 | 67.63 |
| Dh/Rh | 0.98 | 0.96 | 1.08 | 1.06 | 0.98 |
| Duration of surgery | 565 | 460 | 493 | 558 | 617 |
| First lung ischemic time | 378 | 445 | 384 | 451 | 423 |
| Second lung ischemic time | 584 | 618 | 620 | 641 | 643 |
| Preop ECMO | VV | - | - | VV | VV |
| Intraop ECMO | AV | - | AV | AV | AV |
| PostopECMO | VV | - | - | VV | - |

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| Patient data | | | | | |
|----------------------|-----|----|-----|----|----|
| Patient | 1 | 2 | 3 | 4 | 5 |
| Preop FEV1% | 38 | 29 | 33 | 24 | 21 |
| Postop best FEV1% | 120 | 81 | 106 | 67 | 68 |
| MV (days) | 1 | 1 | 1 | 2 | 1 |
| ICU stay (days) | 6 | 5 | 3 | 4 | 2 |
| Hospital Stay (days) | 41 | 22 | 19 | 19 | 18 |
| AliveYES/NO | Y | Y | Y | Y | Y |
| FU (months) | 40 | 12 | 17 | 8 | 4 |



(633)

Postoperative Atrial Fibrillation in Lung Transplant Recipients with and without Concomitant Modified Maze

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Purpose: Atrial fibrillation is common following lung transplantation and may contribute to increased risk of stroke. The goal of this study was to characterize the incidence of atrial fibrillation in lung transplant recipients with and without a concomitant modified Maze procedure.

Methods: We conducted retrospective review of adult lung transplant recipients at University of California Los Angeles from June 2008 to August 2021 and identified those who received a concomitant modified Maze procedure, which were performed for intraoperative or history of atrial fibrillation or flutter when technically feasible. Baseline characteristics and incidence of post-operative atrial fibrillation were compared between Maze and non-Maze recipients. Multivariable logistic regression was used to evaluate predictors of postoperative atrial fibrillation.

Results: Of 757 lung transplant recipients identified in our cohort, 61 (8%) had concomitant modified Maze. Recipients in the Maze group were older [63(57-67) vs 61(52-66), $p=0.02$], more likely diagnosis groups A (23% vs 15%) and B (11% vs 4%, $p<0.01$), had higher CVP [8(4-11) vs 5(3-8) mmHg, $p<0.01$], pulmonary capillary wedge pressure [13±6 vs 11±6 mmHg, $p=0.03$], and were more likely to have a left atrial appendage ligation (87% vs 2%, $p<0.01$). Post-operative atrial fibrillation was significantly higher in the Maze group (44% vs 25%, $p<0.01$), but no patients in the Maze group developed a stroke at the index lung transplant hospitalization. On multivariable analysis, predictors of post-operative atrial fibrillation included Maze (aOR 2.51, 95% CI 1.40-4.50), male recipient (aOR 1.71, 95% CI 1.18-2.46), hypertension (aOR 1.54, 95% CI 1.09-2.18), BMI (aOR 1.07 per kg/m², 95% CI 1.07), and white (aOR 5.30, 95% CI 1.53-18.36) and Hispanic race (aOR 3.75, 95% CI 1.05-13.44).

Conclusion: Lung transplant recipients with atrial fibrillation and receiving concomitant Maze still have a significantly higher rate of postoperative atrial fibrillation compared to those who do not require Maze. These patients should have their left atrial appendage ligated when technically feasible to reduce the future risk of stroke.