

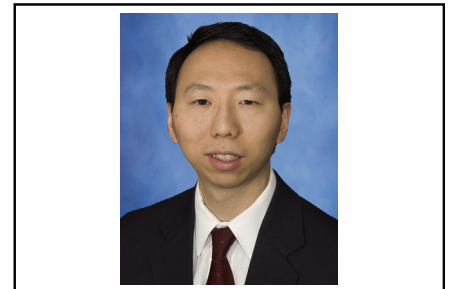
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Commentary: Running bronchial anastomotic suture in lung transplantation: Should we run before we walk?

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CENTRAL MESSAGE

Although many surgeons hesitate to use a single running suture bronchial anastomotic technique, this large series reports a low rate of bronchial complications.

Schweitzer and colleagues¹ report a large series of 1555 patients undergoing lung transplant using a single running suture bronchial anastomotic technique. Although many surgeons are hesitant to use a running suture due to the risk of purse-stringing and narrowing the anastomosis, the authors should be congratulated on achieving excellent results with a low rate of anastomotic complications. These complications have decreased over time, and the majority were treated endoscopically.

Including patients over almost 2 decades allowed the authors to create a larger study cohort, but the long time period introduces potential confounding issues. Changes in lung transplant selection and allocation (eg, distance, primary disease group, disease severity, and functional status), anastomotic and operative technique (eg, donor bronchial length, extracorporeal membrane oxygenation [ECMO], or cardiopulmonary bypass), donor procurement (eg, donation after cardiac death, retrograde perfusion, preservation solutions, or ex vivo lung perfusion [EVLP]), postoperative care, and immunosuppression (induction therapy) could all potentially affect the incidence of anastomotic complications.

In the current study, the disease group, use of ECMO intraoperatively and as a bridge-to-transplant, and EVLP

changed significantly over time. However, there was no association between ECMO or EVLP and bronchial complications, and the authors believe that the lower complication rate during the later time periods was due to increasing experience and transplant volumes. Anastomotic complications were higher with antithymoglobulin and with no induction therapy, and the majority of these patients were transplanted in the earlier time periods. Those treated with antithymoglobulin or without induction received higher doses of corticosteroids during the first year, which has been associated with anastomotic complications.

Anastomotic complications were higher with lobar transplants with 7 of the 45 airway complications in the lobar group. The incidence for anastomotic complications was 3.3% (7 out of 212) after lobar transplant, and all were right-sided. Mitilian and colleagues² also found a higher anastomotic complication rate, with 16% requiring endoscopic treatment. In addition, airway complications may have a greater influence on the outcomes of lobar lung transplant recipients.³

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Other factors previously associated with airway complications include positive airway cultures pre and post-transplant, primary graft dysfunction, and ischemic time.^{4,5} However, the authors found no association between mechanical ventilation >48 hours, mean ischemic time ≥ 345 minutes, postoperative ECMO, or primary graft dysfunction 2 or 3 at 72 hours and airway complications. A recent review by Anile and colleagues⁶ on bronchial anastomoses for lung transplant included three studies with a partial or complete running anastomotic technique with a rate of airway complications ranging from 2.1% to 23.8%. Absorbable sutures, a short donor bronchus, and avoiding telescoping the anastomosis were associated with lower anastomotic complication rates.

There have been concerns in the past that a running bronchial anastomotic suture could result in purse-stringing and narrowing of the anastomosis; however, the authors' large experience with a low complication rate using a running

technique suggests that in this case, it may be safe to run before we walk.

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