

Iatrogenic Left Mainstem Bronchus Injury and Repair During Right Sided Lung Resection

Adin Reisner, MD and Matthew L. Inra, MD, FACS

Background

- Airway injury during intubation is extremely rare and is reported to be between 0.005 to 0.5% in the United States.¹
- These injuries include injury to the trachea as well as left and right mainstem bronchi.
- Though the incidence of injury from double lumen endotracheal tubes is not well reported, it is believed that these tubes are associated with a higher risk of airway injury because of their larger size and more complex placement.



Figure 1. Bronchial balloon exposed through the left mainstem bronchus

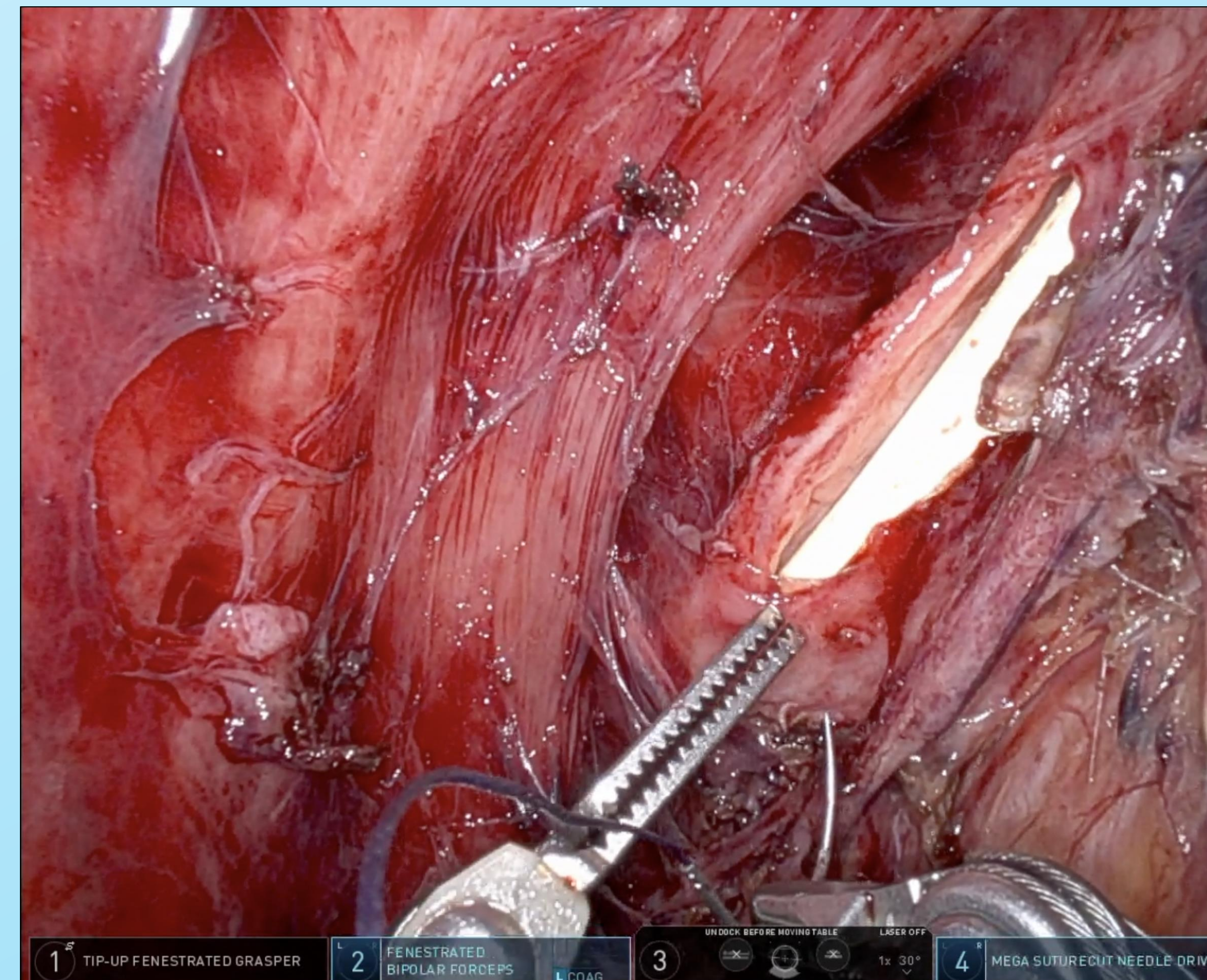


Figure 2. ET tube exchange catheter for jet ventilation of the left lung

Case Presentation

- Patient is an 88-year-old female with a right lower lobe lung cancer.
- She underwent right VATS robotic-assisted wedge resection and lymph node dissection.
- During station 7 lymph node dissection, the bronchial balloon was identified through a laceration of the posterior membrane of the left mainstem bronchus (**Figure 1**).
- Using jet ventilation for the left lung (**Figure 2**), the laceration was primarily repaired and buttressed with an intercostal muscle flap (**Figure 3**).

Discussion

- Principles for managing this problem include:
 - Stabilize: Ensure the patient is ventilating adequately.
 - Assess: Ensure that you have identified the only area of injury along the tracheobronchial tree.
 - Plan: With the patient ventilating, there is time to plan your repair and prepare tissue flaps. It is also crucial to communicate with the anesthesiologist regarding ventilation strategy during repair, which may include intermittent apnea, jet ventilation, or ECMO.
 - Perform: Carry out the planned repair.

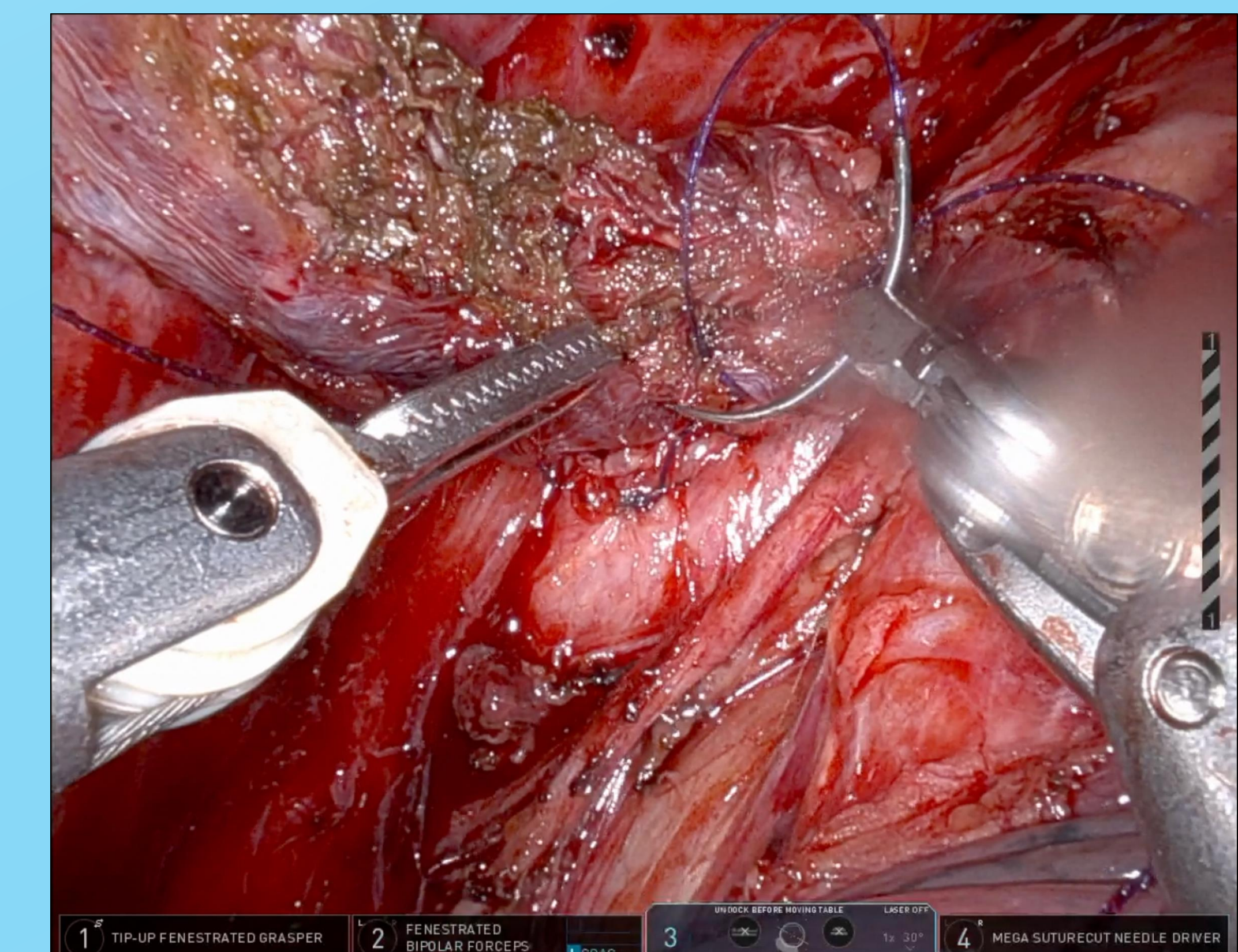


Figure 3. Primary repair and buttress with intercostal muscle flap