Reconstructed 3D CT Scan & Bronchoscopy

In 2012, there were 1943 cases of lung transplantation performed in the United States alone (1). In order to provide anesthetic care to these patients, anesthesiologists must be aware of possible complications that may occur to these patients. We present a case of hemoptysis that occurred during bronchial dilation in post lung transplant patient.

**Case**

**Patient's Info:**
- 12-year-old girl with h/o scleroderma complicated by end-stage lung disease
- S/p double lung transplantation in 2012
- Complicated by recurrent episodes of major bronchial stenosis requiring stent placements and dilations
- First two procedures were complicated by hemodynamically significant pulmonary hemorrhage requiring resuscitation and post-intervention mechanical ventilation

**Procedure**

1. **1st Procedure**
   - Aborted due to hypoxia & bleeding
   - CT chest performed
   - Bronchial Artery detected
   - Embolization of artery prior to balloon dilation
   - Home

2. **2nd Procedure**
   - Aborted due to hypoxia & bleeding
   - ICU & Home

Prior to 3rd Procedure
- Bronchoscopy
- Bronchial Neovascularization in Post Lung Transplant: Need for System-Based Practice
- Lucile Packard Children’s Hospital, Stanford University Medical Center

**Discussion**

Reported incidences of airway anastomotic complications range from 2 to 33 percent (2). In a retrospective series of 232 lung transplants, 57 airway complications developed (3). It is well documented that the most vulnerable site for operative complication of lung transplantation is at the airway anastomosis. Thus, one of the common complications of lung transplantation at the site is bronchial stenosis (4). Others include bronchial necrosis and dehiscence, excess granulation tissue, tracheobronchomalacia, and fistula formation. A case report of broncho-aortic neovascularization has been described in literature (5).

It is possible that an interdisciplinary meeting with the primary service, interventional radiologist, pulmonologist and anesthesiologist would have led to an intervention that may have prevented the second, more complicated, hemorrhage.

This case highlights the need for a system-based practice to understand the root cause of a significant critical incident with a view to reducing further risks.

**Reference**

1. http://www.ishlt.org/registries/quarterlyDataReportResults.asp?organ=L& cptType=all&continent=4