Complications with the bronchial anastomosis, such as dehiscence or stricture, usually occur (i) during the first 72 hours after surgery. This is because the surgical site is in close proximity to the pulmonary artery, which is a major arterial supply to the lung. When it does occur, it is a significant concern because the pulmonary artery is a major arterial supply to the lung. When it does occur, it is a significant concern because the pulmonary artery is a major arterial supply to the lung.

Pulmonary artery stricture, or narrowing, is fortunately very uncommon. When it does occur, it is a significant concern because the pulmonary artery is a major arterial supply to the lung. When it does occur, it is a significant concern because the pulmonary artery is a major arterial supply to the lung.

Intraoperative and early postoperative hypotension occurs commonly & is usually due to the following reasons:

- Haemodynamic management
- Ventilatory modes
- Patient position
- Fluid excess
- Intrathoracic pressure
- Surgical manipulation
- Alveolar dead space
- Oxygenation
- Ventilatory instability
- Early post-operative complications
- Lung transplant
- Postoperative care
- Hypotension
- Bleeding
- Bronchial anastomosis problems
- Pulmonary venous anastomosis problems
- Pulmonary artery anastomosis problems
- Infections after lung transplant
- Immunosuppression
- Early post-operative complications
- Contraindications to transplant

- In most patients SIMV with rapid movement towards CPAP + PS and early extubation is most appropriate.
- In patients with poor early graft function, for example those with primary graft failure, ventilatory strategies that limit barotrauma are most efficacious and usually include pressure-control modalities.

- The use of positive end-expiratory pressure (PEEP) can be safely used in lung transplant recipients, especially those patients who have received a bilateral lung transplant.
- In the double-lung recipients, the compliance characteristics of the two allografts will be more similar, therefore, the positive pressure exerted on each lung will be nearly evenly distributed.
- PEEP of +5 to +15 is safe in this patient population. In fact, some believe that PEEP has a beneficial effect in this group in decreasing postoperative bleeding by increasing intrathoracic pressure, which would lead to tamponade of the small blood vessels in the chest.
- In single-lung recipients, the use of PEEP can be more problematic. The differing compliance characteristics of the remaining native lung and the allograft lead to the potential for a major difference in pressure being directed at only one lung which leads to a situation known as acute native lung hyperinflation.
- The hyperinflated native lung can cause both cardiac tamponade, manifested as acute hypotension associated with a reduction in cardiac index, and allograft compression, manifested by hyperinflation and hypercapnia. Because of these potential problems, the avoidance of high levels of PEEP in patients with emphysema undergoing single-lung transplantation is generally recommended.

- Chest physiotherapy is an essential part of postoperative respiratory management. Because the allograft is denervated, the cough reflex in lung transplant recipients is impaired.
- Patient positioning in the bed can help minimize the development of pulmonary edema. Regardless of the initial condition of the transplanted lung, the allograft side should be placed upward for the first 6 hours postoperatively while the patient is in the lateral decubitus position to diminish its blood flow and ideally its tendency to develop pulmonary edema.

- Some programs use an induction strategy that involves the early administration of antibody, either directed directly at the lymphocyte ("lymphocyte-depleting") or against interleukin receptor sites. Regardless of which induction agent is preferred, a primary advantage of this strategy involves the early avoidance of nephrotoxic immunosuppressive while still providing adequate immunosuppression.

- Most lung transplant programs use a three-drug immunosuppressive regimen. Corticosteroids are a central part of the early strategy, particularly during the period when adequate blood levels of the other immunosuppressive agents are not yet achieved. In addition, immunosuppressive agents such as tacrolimus and cyclosporine-based medications comprise the second part of the three-drug strategy.

- The third part of the immunosuppressive regimen involves the use of either azathioprine or mycophenolate mofetil.

- Infections after lung transplant are common and occur because of baseline immunosuppression, transmission from the donor, and ICU-related instrumentation (e.g., chest tubes, central venous catheters, endotracheal tubes).
- The anticoagulant prophylactic regimen is directed toward preventing pneumonia, surgical site infections, and central line-related infections. Usually, this is achieved through the prophylactic use of heparin.
- To prevent both the acute and chronic consequences of CMV infection, many programs have adopted an aggressive CMV prophylactic protocol.
- The prophylactic use of antifungal agents is controversial and varies among centers.

- Long-term survival after lung transplantation is limited by the development of the bronchiolitis obliterans syndrome (BOS), which is commonly referred to as chronic rejection.
- BOS, defined by declining spirometry below the best postoperative level achieved, is variable in time to onset but increases in frequency as duration post transplant lengthens.

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