ANESTHESIA FOR LUNG TRANSPLANTATION

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Lung transplantation (LT) is the only therapy currently available for end-stage pulmonary disease involving destruction of lung parenchyma and vasculature. The unadjusted 1- and 5-year mortality rates for all lung transplant recipients are 78% and 45%, respectively.

Anesthetic considerations: preoperative evaluation and preparation

After performing a careful history and physical examination, the anesthesiologist is usually responsible for placing intravenous catheters and invasive monitors. If possible, Two important points must be made regarding placement of these lines and catheters. First, as in all patients but especially in patients soon to begin immunosuppressive therapy, meticulous sterile technique must be followed. Second, these patients are often anxious, and line placement is painful, premedication with anxiolytics and analgesics are often necessary.

Induction of anesthesia

Rapid-sequence or modified rapid-sequence inductions are generally performed in these patients. Muscle relaxants such as atracurium are often used, especially if early extubation is planned. The transition from spontaneous to positive pressure ventilation is the source of several serious problems that occur in patients with severe lung disease. Patients are mildly hyperventilated to maintain an end-tidal carbon dioxide level of 30 mm Hg or a partial pressure (PaO2) of 28—30 mm Hg and an arterial pH range of 7.45—7.50.

Maintenance of anesthesia

During the procedure, anesthesia is generally maintained with a balanced technique. Avoiding excessive fluid administration is extremely important. To reduce bleeding, E-aminocaproic acid or aprotinin, is often administered after induction. If severe hemodynamic derangements are observed, cardiopulmonary bypass is often required and may be related to improved outcomes.

Postoperative care

Respiratory management and mechanical ventilation
Hemodynamic management
Sedation and Pain relief
Renal management
Gastrointestinal management

References