Beth Israel Deaconess Medical Center
Harvard Medical School Teaching Affiliate
DEPARTMENT OF ANESTHESIA

Anesthetic Protocol for Minimally Invasive Esophagectomy

Indication: This procedure is usually performed for Barrett's or stage 1 esophageal cancer confined to the GE junction. A neo esophagus is formed using stomach and is advanced above the diaphragm. An abdominal laparoscopic approach is utilized initially and then, the patient is place in the left lateral decubitus position for a right VATS procedure.

Monitors and lines: 2 large bore iv's, preferably in the hands to avoid kinking during lateral positioning are used, as well as an a-line. A CVP is needed only if there is underlying cardiac disease. A foley catheter is placed and a thoracic epidural is placed for post operative pain management. A left-sided double lumen tube is placed on induction. The induction and maintenance anesthetic should minimize the total amount of intravenous opioids.

Volume and hemodynamic considerations: When the neo esophagus is formed, the blood supply will consist of a single arterial conduit. For this reason, pure vasoconstrictors, such as phenylephrine, are avoided. Albumen is usually given and serial arterial blood gases drawn and packed red blood cells are given for low hematocrit readings (< 24). Volume loading is necessary, as the patient is in steep reverse Trendelenburg position and the abdomen is inflated with CO2. Serum magnesium levels should also be drawn periodically (use a green top), to watch for low serum Mg++, the presence of which may be associated with the development of atrial fibrillation. Surgical manipulation in the thorax near the pericardium will result in frequent although usually transient atrial premature contractions.

Preparation for the postoperative period: The patient is usually scheduled to go to the ICU. The epidural should be bolused and an infusion started prior to the end of the case. The start of the epidural should cause a decrease in both the heart rate and blood pressure. Usually, the surgeons prefer the patient to be extubated. On some occasions, however, the surgeons may want to do a bronchoscopy prior to extubation. In this case, change the DLT to a single lumen tube (size 7.5 or larger) using a Cook exchange catheter. Transport should include supplemental oxygen therapy and invasive and standard monitoring.

ICU handoff: Make sure there is sufficient epidural medication, sedative medication and fluids available to the ICU team when you arrive in the unit. After sign out, return all narcotics including APS solution to the OR pharmacy and make sure that the amounts are

entered in the AIMS anesthesia record. Contact the Pain Service (3-OUCH) prior to transport.

JP: 30 November 2009