Mediastinoscopy

CoreNotes **by Core Concepts Anesthesia Review, LLC**

What You Must Know

1. Mediastinoscopy provides surgical access to the paratracheal, subaortic and bronchial lymph nodes for the purpose of diagnosis and staging of cancer.
2. Mediastinoscopy is performed in the supine position with the neck extended. The table is often flexed causing the head to be elevated.
3. Spontaneous ventilation, with negative intrathoracic pressure increases the risk of air embolization through open venous structures.
4. Compression of the brachiocephalic (innominate) artery can easily occur and the pulse oximeter should be placed on the right upper extremity.
5. Complications include bleeding, vocal cord paralysis, pneumothorax, esophageal perforation, dysrhythmias, air embolism, tamponade & neurologic events.

Mediastinoscopy is a commonly performed procedure, which gives access to the lymph nodes of the mediastinum. It is most frequently done for the diagnosis and staging of lung cancers and other mediastinal tumors.

The patient is supine and positioned with the head extended using a shoulder roll. Elevation of the head is sometimes requested for venous decompression. However, this can increase the risk of air embolization.

The standard anesthetic plan involves general anesthesia with controlled ventilation; although, mediastinoscopy can be done under local anesthesia with sedation. Muscle relaxation is advantageous for the control of ventilation and the prevention of sudden movement or coughing, which greatly increase the risk of complications. Because of the risk of intraoperative compression of the brachiocephalic artery, pulse oximetry is performed on the right upper extremity to allow assessment of blood flow and serves as an early warning of vessel compression.

The overall complication rate is reported to be 1.5 – 3%. The most common serious complications are bleeding, air embolization, pneumothorax & cardiac tamponade.

Postoperatively, patients can experience dyspnea. Raising the head of the bed improves ventilatory mechanics and venous return. Damage to the recurrent laryngeal nerve can result in hoarseness and stridor, which is not evident until extubation. Bilateral recurrent laryngeal nerve damage will require re-intubation.

Additional Reading:

Longnecker, DE, Brown, DL, Newman MF and Zapol, WM. *Anesthesiology*. New York: McGraw Hill, 2012: 988-989