Surgical Anatomy of Mediastinum

Introduction

Past

Present

Objectives

- To visualize spatial dimension of related structures for clinical implications e.g. endoscopic and thoracoscopic procedures.
- To outline the anatomy of the major organs of the mediastinum e.g. lungs and bronchial tree, heart and vessels etc.
- To prepare a model specimen for educational purposes of thoracic anatomy

Thoracic Cavity

- Thoracic cavity is one of the most frequent sites accessed either surgically or endoscopically for diagnostic or therapeutic purposes.
- It can be divided into:
  a) Cavity for Lungs (Left and Right)
  b) Mediastinum

Mediastinum

- Mediastinum can be further divided into:
  1) Superior mediastinum
  2) Anterior mediastinum
  3) Middle mediastinum
  4) Posterior mediastinum

Materials and Methods

with findings
Chamberlain Procedure

- The Chamberlain procedure is used to biopsy lymph nodes or masses in the aortopulmonary window on the left side of the chest, or nodes in the hilar areas of the lung.

Right Posterior Mediastinum

Clinical Relevance

i) Chamberlain Procedure
ii) Endobronchial Ultrasound (EBUS)
iii) Video Assisted Thoracic Surgery (VATS)

Aortopulmonary Window

What is the risk?

- The chief risk is that of opening the pleura, and the requirement for placement of a chest tube (drain).
- Although very rare, there is a risk bleeding from a large blood vessel such as the aorta or pulmonary artery.
E-BUS

- Endobronchial ultrasound (EBUS) is a relatively new procedure used in the diagnosis of lung cancer, infections, and other diseases causing enlarged lymph nodes in the chest.

Video Assisted Thoracic Surgery (VATS)

- VATS is used to diagnose and treat a range of conditions. Common reasons to undergo VATS include:
  - Diagnosing and treating lung cancer
  - Diagnosing lung infections
  - Removing diseased lung sections or lobes
  - Treating collapsed lungs

Compared to traditional procedures, VATS may result in:
- Less pain and faster recovery
- Shorter hospital stay
- Fewer complications
- Less scarring

Conclusion

- Our project explores the structures of the mediastinum and pleural cavity to allow an understanding of anatomical localization of organs and relative spaces between the structures and existence of variation.
- Minimally invasive procedures utilizing VATS and robotic-assisted technology aim to provide better treatment outcomes for thoracoscopic patients.
- In a reduced physical visualisation capacity, a strong grasp of the anatomy of the thorax is imperative for optimal manoeuvres and surgical performance.

References

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