



Mediastinal Masses in Children

ANAESTHETIC CONSIDERATIONS

T. MOLITOR

Case Study

- ▶ 5 year old girl with a suspected lymphoma is listed for a bilateral bone marrow biopsy.

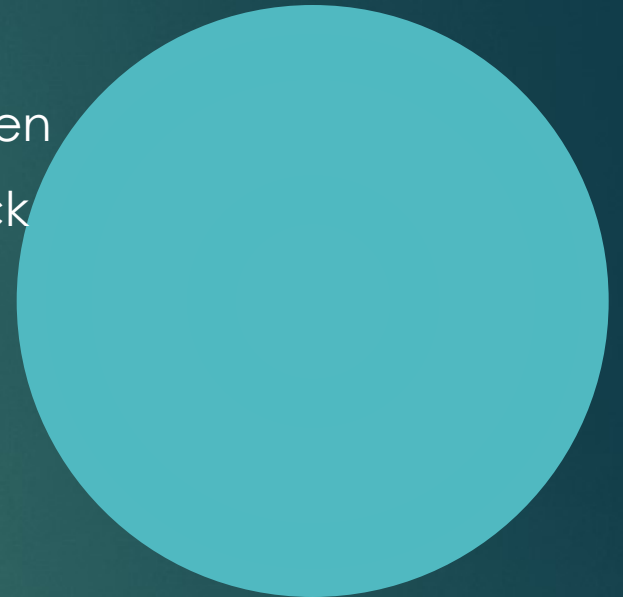


Questions



History and examination

- ▶ Prefers to sleep on her left side or tummy
 - ▶ Breathing feels hard when on her back and right-hand side
- ▶ Gets “funny pains” in her chest
- ▶ Has lost weight and is “Off Food”
- ▶ Has been having some temperatures (mainly at night)
- ▶ Has been coughing more recently
- ▶ Face looks more swollen
- ▶ “big veins” on her neck



Investigations

- ▶ CXR: Widened mediastinum
- ▶ Blood tests: mild pancytopenia
- ▶ CT: Large mediastinal mass with SVC compression and significant distal tracheal compression.

The procedure



Anterior Mediastinal Masses

- ▶ What are they?
- ▶ When might we see them?
- ▶ Why are we interested?



What are they?

- ▶ Usually a result of haematological malignancies
 - ▶ Lymphoma (Hodgkins & Non-Hodgkins)
 - ▶ Leukaemias (ALL)
- ▶ Other causes include
 - ▶ Vascular malformations
 - ▶ Neurogenic tumours
 - ▶ Teratomas



When might we see them

- ▶ Diagnostic procedures
- ▶ Surgical Intervention
- ▶ Incidental finding in unrelated surgery

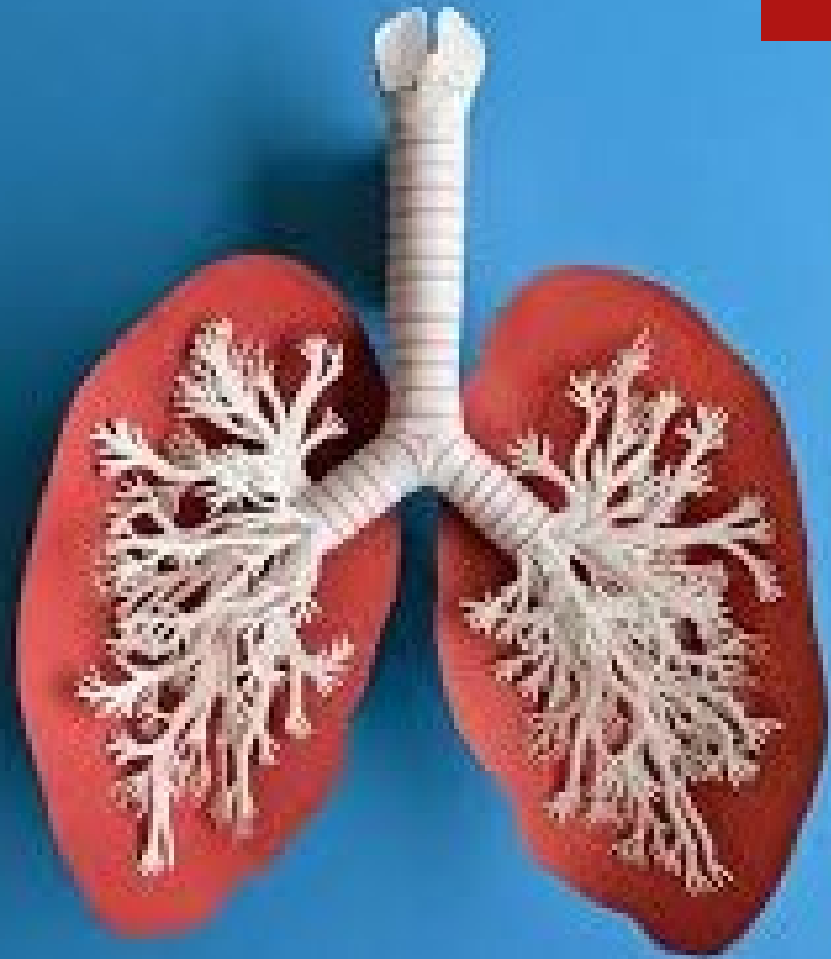




Why are we
interested?

Respiratory Problems

- ▶ Complete airway obstruction



Cardiovascular problems

- ▶ SVC obstruction
- ▶ Pericardial Effusion



Anaesthetic Approach

- ▶ History and examination
- ▶ Investigations



Table 1 Risk factors for perioperative complications.

Signs and symptoms	Imaging findings
Orthopnoea	Reduction (<70%) in tracheal cross-sectional area
Cough when supine	Carinal or bronchial compression
Stridor	Great vessel compression
Wheeze	Pericardial effusion
Syncopal symptoms	
Upper body oedema	

Other Considerations

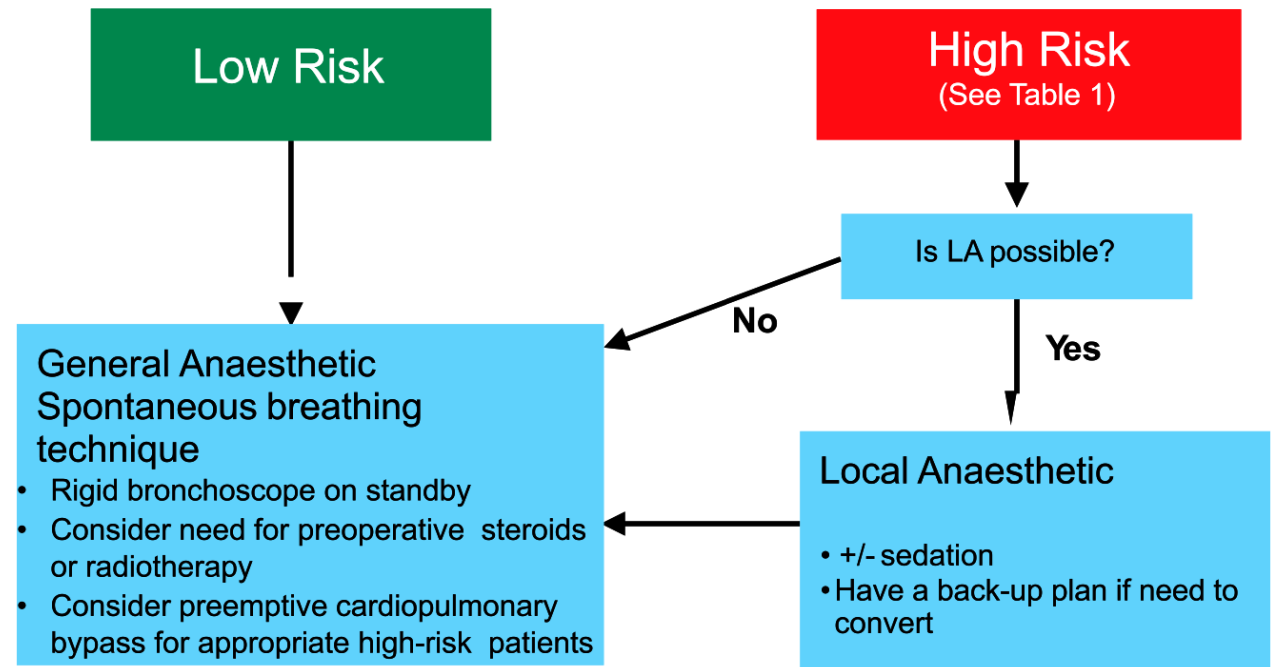




Intra-operative
management

| intra-op

- ▶ Monitoring
- ▶ IV Access
- ▶ Drugs
- ▶ Airway
- ▶ Analgesia

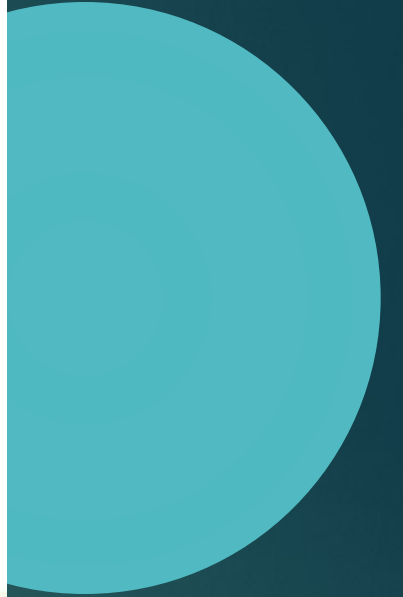
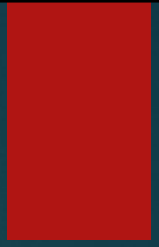


Sedation

- ▶ Ketamine: 1 mg/kg followed by 0.5mg/kg boluses
 - ▶ Midazolam
- ▶ Dexmedetomidine: 1mcg/kg LD (2mins) then 0.25-2mcg/kg/hr



What if it all
goes
wrong?



If deterioration consider:

Respiratory compromise

- Increase FiO₂
- CPAP
- Reposition
- IPPV with PEEP
- OLV
- Rigid bronchoscopy
- Consider cardiovascular component

Cardiovascular compromise

- Fluid bolus
- Reduce depth of anaesthesia
- Reposition
- Sternotomy and elevation of mass

Summary

- ▶ Uncommon Problem
- ▶ Significant Problem
- ▶ History and examination very important
- ▶ Positioning is key!!
- ▶ Maintain spontaneous ventilation
- ▶ Access to rigid bronchoscopy



Questions





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Anterior mediastinal masses in children

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