OESOPHAGEAL PERFORATION

INTRODUCTION

- Relatively infrequent complication in neonates and early infancy
- most common cause in neonates is iatrogenic
- Neonates (especially preterm) requiring endotracheal intubation, nasogastric tube (NGT) insertion and oropharyngeal suction are at increased risk of trauma to:
- pharynx
- upper airway
- oesophagus
- Site of injury is often at pharyngoesophageal junction where lumen is narrowed by cricopharyngeal muscle
- Contrast oesophagram and direct visualisation (ultrathin flexible endoscopy) are gold standards for diagnosis

Iatrogenic oesophageal perforation

Complications

- Pneumothorax
- Pneumomediastinum with associated infection
- Pseudo-diverticulum formation
- Surgical/subcutaneous emphysema
- Delayed initiation of feeding
- Upper GI bleeding
- Oesophageal obstruction

AT RISK

- Preterm babies (especially <1500 g)
- Babies requiring multiple intubation attempts
- Difficulty passing or forceful attempts at NGT insertion

RECOGNITION

Clinical

- Difficulty in passing NGT
- NGT bouncing back
- Blood stained aspirates
- Bloody secretions in oropharynx
- Deterioration in clinical condition

Radiological

- Discuss with radiologist urgently if NGT appears:
- displaced
- being to the right of the midline/vertebral spine
- not in to the stomach
- not following normal anatomical curvature towards the stomach
- follows a straight line in the midline towards abdomen

High index of suspicion required; above findings in isolation are common in day-to-day neonatal care

Suspect oesophageal perforation if:

- Pneumomediastinum
- Pneumothorax
- Cervical crepitus
- Subcutaneous emphysema
- Retropharyngeal gas

Difficulty passing NGT

- **Do not** make any further attempts to pass NGT
- Request a water soluble contrast study (discuss with radiologist)

MANAGEMENT

- Early recognition is important (most important prognostic factor is the time between injury and initiation of therapy)
- Stop feeds
- Prescribe TPN
- Remove NGT
- **do not** re-insert or manipulate NGT
- If requiring ventilatory support, **not** for non-invasive ventilation
- Discuss with local paediatric surgical team
- send images by PACS
- Maintain close liaison with surgical team regarding:
- antibiotics
- duration of nil-by-mouth
- progress
- Consider transfer to tertiary/surgical centre
- Keep parents updated regularly
- Document completion of duty of candour in medical records