Pulmonary Aspiration

May be primary aspiration or secondary to regurgitation (may be silent) or vomiting

Risk Factors

Altered consciousness - CVA, poisoning, HI, seizure, metabolic coma
Impaired cough/gag reflexes - Post extubation, bulbar palsy
Gastric distension – obstetric, bowel obstruction, abdominal injury, charcoal, paediatric

Management

Supportive, O2, CPAP/PEEP, intubation, bronchoscopy, ?bronchodilators, (steroids no use).
ABx if contaminated fluid or 2° infection: (benzylpenicillin 1.2g q6h OR ceftriaxone 1g od[if G- e.g. alcoholics]) PLUS+ metronidazole 500mg IV or 400mg PO q12h

Prevention

Position, suction, cricoid pressure/ETT cuff, H2 antag/PPI, metoclopramide, thicken feeds.

Types

Gastric Acid Aspiration

Most serious type of aspiration. Damage dependent on pH and vol. Rapid damage, may→ARDS
Usually sterile but 2° infection of damaged lung by Gram neg or anaerobes.
Features: Hypoxia, RR, bronchospasm, shock
CXR: Changes appear within 24-36hrs

Infected Fluid

From gastric aspiration where antacids have allowed bacterial proliferation. Faeculent fluid in SBO. G- & anaerobes from oropharynx.
May cause abscess, necrotising pneumonia, empyema.
If erect: post.segs of upper lobes and sup.segs of lower lobes. Supine: basal.segs of lower lobes.
CXR: may look like bronchopneumonia. R>L lung?

Inert Aspiration

Blood, charcoal, water (fresh/salt)
CXR: In near drowning little change doesn't exclude sig. pathology, ARDS most common finding or perihilar alveolar infiltrates.

Particulate Aspiration

Teeth, bone, peanuts, vegetable matter. Latter causes more inflammation.
Early inflammation with late bacterial Cx.
CXR: Up to 50% normal. Ipsilateral atelectasis. Expiratory film: ipsilateral hyperinflation ± mediastinal shift away.

Paediatric Tracheobronchial FB

60% between 1-2y. 10%<1y and 10%>6y. 2M:1F. May be delayed Dx.
Location: 10% in trachea, 45% each main bronchus.
Hx: Choking (85%), cough (30-50%), wheeze (40%), SOB, stridor (uncommon), resp. arrest, recurrent pneumonia
Mx: As per APLS, Laryngoscopy/Magills. Push tracheal FB into R main bronchus with ETT.

Volatile Substances

More common with low viscosity subs e.g. kerosene, turps, aromatic/halogenated hydrocarbons
Rapid chemical pneumonitis, pulm. oedema
CXR: Early changes, but correlate poorly with clinical severity.