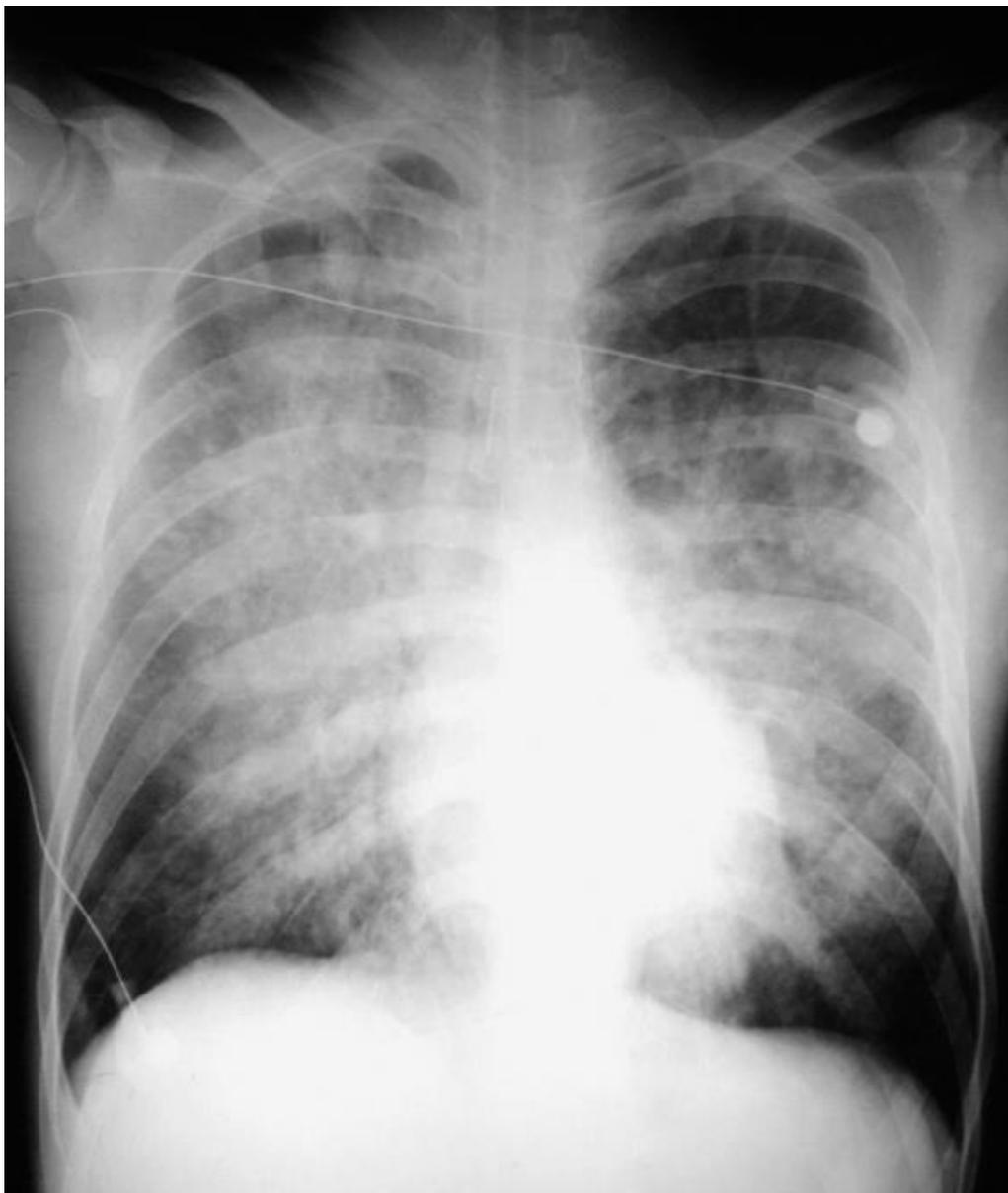


## Critical Care Station 2

9 minutes with up to 1 minute for feedback

**You are the surgical SHO on-call in A&E and you have been asked to see Mr Griffiths, a 45 year old man, who is presenting with severe, constant, epigastric pain, radiating to his back since this morning, and has been vomiting over the last few hours. Bloods have been taken by a PA, and the most notable finding is that the amylase is elevated at 1400. You will be asked a series of questions on this scenario.**



## **Pancreatitis Station**

### **What is the likely diagnosis and what are the causes?**

- Acute pancreatitis
- Causes:
  - Gallstones + alcohol commonest
  - Trauma, steroids, ERCP, hypercalcaemia, hypertriglyceridaemia, hypothermia, drugs (furosemide, sulphonamides, azathioprine, NSAIDS), autoimmune disease.

### **What imaging investigations would you consider acutely?**

- Chest radiograph – to exclude perforation
- Abdominal radiograph – sentinel loop of dilated small bowel, pancreatic calcification of chronic pancreatitis
- Ultrasonography – looking for gallstones as a cause, or dilated biliary tree
- Computed tomography – guidelines suggest this should be reserved until >48 hours, unless severe.

### **What scoring systems can be used to assess for the severity, and what score suggests severe pancreatitis?**

- Modified Glasgow score – severe = score of 3 or more
- APACHE II – severe = score of 8 or more
- Ransons criteria – severe = score of 3 or more

### **The patient is diagnosed as having acute pancreatitis secondary to an impacted gallstone in the common bile duct. How would you manage this patient acutely?**

- ABC
- Fluid resuscitation – often profoundly dehydrated due to third space losses
- Analgesia
- Alert HDU/ITU should a higher level of care be required
- Nasogastric tube if the patient continues to vomit – sign of ileus resulting from pancreatitis
- Nil by mouth – although in mild cases, guidelines suggest early feeding should be advocated
- Antibiotics – controversial. Guidelines suggest to withhold unless the patient is febrile, or shows other signs of infection – or develops a complication.
- Consider early ERCP +/- sphincterotomy

### **What local complications of pancreatitis do you know of?**

- Pancreatic necrosis
- Abscess formation
- Pseudocyst formation
- Splenic artery pseudo-aneurysm
- Venous thrombosis – splenic, SMV, portal
- GI bleed – acute gastric erosions/ulceration

### **The patient becomes increasingly short of breath and requires transfer to ITU for ventilation. His chest x-ray is shown. What does this show?**

- Acute respiratory distress syndrome

### **How is this condition defined?**

- clinical syndrome of *acute respiratory failure* with *non-cardiogenic pulmonary oedema*, which is accompanied by *hypoxia refractory to oxygen therapy*
  - Diffuse pulmonary infiltrates on chest radiograph
  - Normal pulmonary artery wedge pressure ( <18mmHg)
  - PaO<sub>2</sub>/FiO<sub>2</sub> ratio of < 26.6 kPa

**How do you define lung compliance, and how does this change in ARDS?**

- Lung compliance is the change in volume of the lung per unit change in pressure.
- In ARDS, lung compliance is reduced – the lung is stiffer.

**Describe some techniques that can be used in ITU to improve oxygenation in ARDS?**

- Mechanical ventilation with PEEP to splint open airways
- Reversed inspiratory:expiratory ratios – increasing the inspiratory phase length
- Prone ventilation – redistributes secretions and improves V/Q mismatch
- Inhaled nitrous oxide or prostacyclin

**Overall impression of the candidate** Please encircle your mark

**FAIL      BORDERLINE FAIL      BORDERLINE PASS      PASS**

If you have any specific comments about this candidate please write them in the box.

For information:

- 1) Modified Glasgow Score
  - a. PO<sub>2</sub> <8kPa on ABG
  - b. Age >55
  - c. Leukocytosis >15x10<sup>9</sup>/L
  - d. Calcium <2.0mmol/L
  - e. Urea >16mmol/L (after hydration)
  - f. LDH >600 IU/L
  - g. Albumin <32g/L
  - h. Glucose >10mmol/l (in the absence of a history of diabetes)