Quiz – Respiratory medicine

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1. A 29-yr-old woman who is 31 weeks pregnant presents with sudden onset breathlessness. She is tachycardic but haemodynamically stable. She has normal breath sounds on auscultation and chest radiograph is normal. Her PaO_2 is 9 kPa on room air. PaCO_2 is 3.1 kPa. Her alveolar to arterial (A-a) gradient is 7 kPa.

- What is the likely diagnosis?
- What does the alveolar-arterial gradient show?
- What is the most appropriate next investigation?
- If the above test was negative what would be the next investigation of choice and why?
- What is the treatment and length of treatment?

2. A 69-yr-old man presents to clinic with a 6 month history of gradually worsening breathlessness. He has recently developed a dry cough. Auscultation of his chest reveals fine end inspiratory crepitations (Image 1). His oxygen saturation on room air is 94%. Lung function tests show a FEV_1 of 1.94L (39%), FVC of 2.37 (38%), FEV_1/FVC of 82%, TLC of 46% and TLco of 50%.

Image 1.

- What does lung function show?
- What is the likely diagnosis and differential?
- What are the available treatment options?

3. A 58-yr-old film producer presents with a history of non-resolving pneumonia. He has a 4 month history of cough, fevers and myalgia. He had received 3 courses of antibiotics with no response. He has never smoked and there are no occupational exposures. Oxygen saturations on room air are 94%. Auscultation of his chest revealed crackles at both bases. Blood tests showed a WCC of $16.5 \times 10^9/\text{L}$ with a neutrophilia. Eosinophil count is normal. CRP is 75mg/L. Vasculitis screen is normal. Chest is abnormal. A CT chest is obtained (Image 2).

Image 2.

- What is the abnormality in the CT chest?
- What is the diagnosis and likely differential diagnoses?
- What is the most appropriate investigation?
- What is the treatment?

(Answers on page 108)

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