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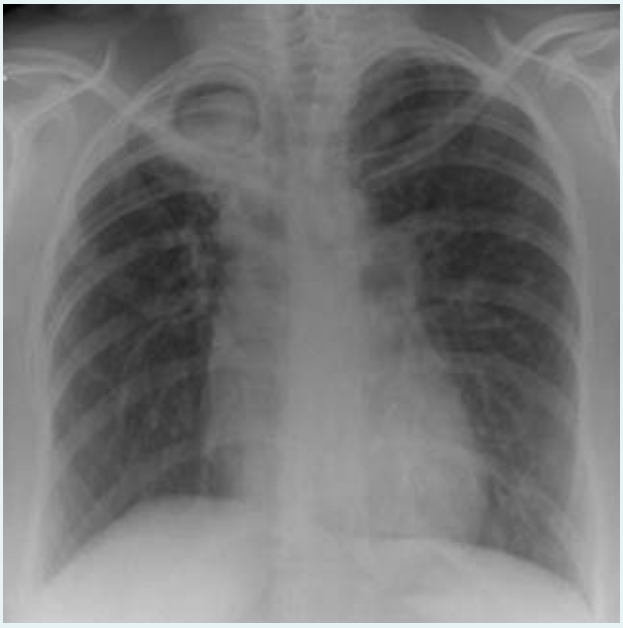
PICTURE QUIZ

Abnormal chest radiograph in pregnancy



A 28 year old woman of Pakistani origin, who was 18 weeks pregnant, presented with a four week history of dry cough, breathlessness, and intermittent wheeze. Antibiotics and inhaled bronchodilators had been prescribed with no improvement in symptoms. She was a never smoker and drank no alcohol. Six years previously she had been treated for smear and culture positive, fully sensitive, pulmonary tuberculosis. After this she had developed a right-sided pneumothorax, which resolved after insertion of an intercostal chest drain. She had no history of pre-existing airways disease.

On examination she was able to talk in full sentences. She had a normal temperature but was tachypnoeic, with a respiratory rate of 24 breaths/min and oxygen saturation of 91% on room air. Respiratory examination showed scattered wheeze throughout. Her pulse was 74 beats/min and blood pressure was 103/71 mm Hg. The rest of the cardiovascular examination was normal. Abdominal examination was consistent with 18 weeks of pregnancy.

Arterial blood gases on room air showed mild hypoxia, with partial pressure of oxygen at 7.98 kPa. Peak expiratory flow rate on admission was 150 L/min. Spirometry (done at a later date when she was clinically stable) showed a forced expiratory volume in one second of 0.89 L (34% of predicted). A chest radiograph was performed (fig 1), followed by bronchoscopy, which showed a necrotic tumour in the right upper lobe.

1 What is the risk of undertaking chest radiography in pregnancy?
2 What does the chest radiograph show and what is the radiological differential diagnosis?
3 What is the clinical diagnosis?
4 What treatment would you give and what are your concerns?

Submitted by B Ziso and S J Quantrill

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CASE REPORT

A woman with forgetfulness and falls

A 69 year old woman presented to her general practitioner with a six month history of occasional falls and fluctuating forgetfulness and attention. Although she reported no difficulties with names and dates she needed help with taking drugs and preparing meals. She had also had two episodes of apparent visual hallucinations of a woman standing at the foot of her bed. Her sleep behaviour had been poor for many years, with frequent strong physical jerks and motion while sleeping. She had no symptoms of altered or low mood. Her medical history included hypothyroidism, osteoporosis, and cholesteatoma, and she was being investigated for a mixed fibre peripheral sensory neuropathy of unknown cause. Current drugs included levothyroxine, calcitriol, calcium carbonate-colecalciferol, and lansoprazole. She did not drink alcohol and was a non-smoker.

On examination she was fully orientated in time and place and her AMTS (abbreviated mental test score) was 10/10 with an MMSE (mini-mental state examination) score of 26/30. Her blood pressure, temperature, and cardiovascular and respiratory examinations were normal. Cranial nerve examination was normal with no primitive reflexes or supranuclear gaze palsy. Tone and power were normal throughout all limbs, as were sensation and reflexes in the upper limbs. The lower limbs showed reduced vibration and pin prick sensation to the mid-shin bilaterally, and joint position sense was limited to large movements. She showed no evidence of bradykinesia or apraxia, but her gait was ataxic in keeping with her peripheral sensory impairment.

1 What is the differential diagnosis?
2 What investigations would you do?
3 How should this patient be managed?

Submitted by Louise Pealing and Steve Iliffe

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STATISTICAL QUESTION

The placebo effect

Varenicline is used as a smoking cessation aid. Its efficacy and safety were assessed by a double blind, placebo controlled, randomised controlled trial. In total, 213 participants were randomised to varenicline and 218 to placebo. Treatment was for 12 weeks, and participants were followed up for 14 weeks after treatment.

The primary end point was continuous abstinence from smoking for the final four weeks of treatment (weeks 9 to 12). The observed treatment effect—the rate of continuous abstinence—was 59% in the varenicline group and 39% in the placebo group. The difference between the varenicline and placebo treatment groups in continued absence between weeks 9 and 12 was significant (relative risk 1.6 (95% confidence interval 1.32 to 1.87); P<0.001).

Which one of the following statements best quantifies the placebo effect?

a) The observed treatment effect in the placebo group.
b) The difference in observed treatment effect between the varenicline and placebo groups.
c) The difference in treatment effect between the placebo group and a conceptual natural history control group.
d) The difference in treatment effect between the varenicline group and a conceptual natural history control group.

Submitted by Philip Sedgwick

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