PICTURE QUIZ

An incidental finding in a preoperative chest radiograph

Fig 1 | Computed tomography of the chest

Fig 2 | Computed tomography of the chest (at a different level from that of fig 1)

An 88 year old woman who had never smoked was found to have a left lower zone mass on chest radiography before elective total knee replacement for osteoarthritis. Other than weight loss, she had no other symptoms. Her medical history included hypertension and anterior resection for Dukes’s A rectal cancer complicated by postoperative deep vein thrombosis eight years earlier; she had no history of tuberculosis. Cardiorespiratory and abdominal examinations (other than a scar) were normal; performance status was 1. Routine blood tests and carcinoembryonic antigen were normal and negative, respectively. Chest and abdominal computed tomography was performed (figs 1 and 2), with abnormalities noted only within the thorax.

1 What does performance status measure?
2 What abnormalities do the computed tomography images show?
3 What is the differential diagnosis in this patient?
4 What is the best relatively non-invasive investigation that can confirm the diagnosis?

Submitted by Graeme Currie, Kimberley Fraser, David R Miller, and Mahendran Chetty

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CASE REPORT

A man with deteriorating ability to live independently

A 55 year old man was brought to see his general practitioner by his wife. She said that he had been healthy and active when younger, but that his ability to function independently had declined over the previous few years to the point where she was now helping him with all activities of daily living. If she did not help or prompt him, he did not wash or dress himself and would sit on the sofa all day doing nothing. He had no history of physical illness, but he had experienced bouts of depression for many years and had developed obsessive-compulsive behaviours over the past 15 years. These included picking up litter in the street and arranging his belongings in lines. On questioning about illness in the family, he said that he thought his mother had been diagnosed with Alzheimer’s disease in her 40s.

On examination, he had occasional involuntary movements in his arms. Examination of the limbs was otherwise normal. He was fully oriented and scored 26/30 on the mini-mental state examination.

After the patient and his family were counselled at a specialist genetics centre, he underwent genetic testing and the presumptive diagnosis was confirmed.

1 What is the most likely diagnosis?
2 What is the pattern of inheritance of this disease?
3 Which symptoms of the disease does this patient show?
4 Which characteristic abnormality would you expect to see on brain imaging?

Submitted by Marianne J U Novak and Sarah J Tabrizi

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STATISTICAL QUESTION

The Hawthorne effect

Researchers evaluated the effectiveness of a newly developed integrated care programme in facilitating the return to work for patients with chronic low back pain. The newly developed programme was a combined patient and workplace directed intervention delivered in the outpatient setting. A randomised controlled trial study design was used. The control arm received usual care. The study lasted one year.

Trial participants were recruited from primary and secondary care if they were aged 18-65 years, had been having low back pain for more than 12 weeks, were in paid work for at least eight hours a week, and were absent or partially absent from work. The primary outcome was length of time absent from work until a fully sustained return to work. Secondary outcome measures were intensity of pain and functional status. The researchers reported that the length of time until a fully sustained return to work was significantly shorter for patients receiving integrated care than for those receiving usual care. The researchers commented that the results may have been distorted by the Hawthorne effect.

The Hawthorne effect is best described as a response to which of the following?

a) Observation and assessment
b) The ritual of adhering to a therapeutic regimen
c) The patient-doctor interaction
d) The natural course of recovery from chronic back pain

Submitted by Philip Sedgwick

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