ENDGAMES

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STATISTICAL QUESTION

Spearman's rank correlation coefficient

Researchers examined the association between trends in antidepressant prescribing and suicide rates between 1991 and 2000 in Australia. A retrospective analysis of national databases was undertaken. Participants were aged 15 years or more. The primary outcomes were trends in suicide rates and antidepressant prescribing, according to sex and 10 year age groups. The trend in suicide within each age group was measured by the difference between the suicide rates per 100 000 people in two five year periods (1986-90 and 1996-2000). Trends in antidepressant prescribing were assessed by the change in defined daily dose per 1000 days, as indicated by the difference between 1991 and 2000. A positive trend in suicide rates or antidepressant prescribing within an age group represented an increase from 1991 to 2000.

The researchers reported that although overall national rates of suicide did not fall significantly, the incidence decreased in older men and women and increased in younger adults. Rates of antidepressant prescribing increased across all age groups in both men and women. The association between trends in suicide rates and antidepressant prescribing were measured by Spearman's rank correlation coefficient. There was an inverse correlation between trends in antidepressant prescribing and suicide; with the largest declines in suicide in the age groups with the greatest increase in exposure to antidepressants. The association was significant in women (r_s=–0.74; P<0.05) but not in men (r_s=–0.62; P<0.10).

It was concluded that an increase in antidepressant prescribing may be a proxy marker for improved overall management of depression. If so, increased prescribing of selective serotonin reuptake inhibitors in general practice may have a quantifiable benefit on the mental health of the population.

Which of the following statements, if any, are true?

a) Spearman's correlation coefficient provided a measure of the strength of linear association between trends in suicide rates and antidepressant prescribing across the age groups

b) The significance test for Spearman's correlation coefficient is parametric

c) It can be deduced that a decline in suicide rates was caused by an increase in antidepressant prescribing across the age groups

Submitted by Philip Sedgwick

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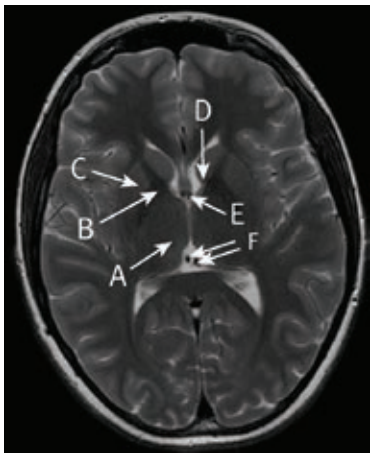
ANATOMY QUIZ



Anatomy of the brain: T2 weighted magnetic resonance image, axial section

Identify the structures labelled A, B, C, D, E, and F on this axial section of a T2 weighted magnetic resonance image of the brain.

Submitted by Pankaj Singh and Sujit Nair

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PICTURE QUIZ

An abnormal chest radiograph

A 55 year old man presented to the emergency department with syncope after laughing. His full examination was documented as normal, and no abnormalities were seen in his electrocardiograph or routine blood tests. Blood pressure when lying and standing was normal. However, his chest radiograph and the results of computed tomography were abnormal (figs 1 and 2).

Fig 1 | **Chest radiograph**

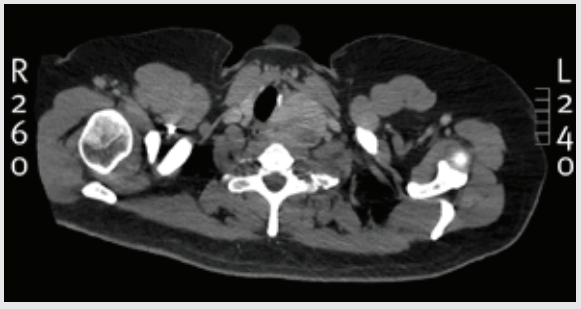

Fig 2 | **Computed tomogram of the chest**

He had never smoked, had no occupational dust exposure, and had no pets such as birds or cats. He had noticed some exertional dyspnoea and a mild cough over the past few months, but no haemoptysis. In addition, he had no weight loss or night sweats.

1 What does the chest radiograph show?
2 What does the computed tomogram show?
3 What are the differential diagnoses?
4 What further investigations and management would you plan?

Submitted by Avinash Aujayeb and Mark Weatherhead

Patient consent obtained.

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