

FOR SHORT ANSWERS

See p 592

FOR LONG ANSWERS

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CASE REPORT

A pain in the leg and breathlessness

A 45 year old man with no previous medical problems was admitted to hospital with progressive breathlessness and discomfort in his left leg. He had no other symptoms and was not on any regular medications.

On examination he was alert, with a pulse of 80 beats per minute, blood pressure 130/70, and respiratory rate of 20 breaths per minute. Peripheral oxygen saturations were 97% on room air. Heart sounds, jugular venous pressure, and respiratory examination were normal, but his left calf and thigh were markedly swollen and tender.

He was initially treated with oxygen via a face mask and intravenous fluids. Doppler ultrasound of his left leg confirmed extensive thrombus extending into the common iliac vein. A later computed tomography pulmonary angiogram identified a large filling defect within the left main pulmonary artery.

- 1 What single blood test would be most useful to guide management in this patient?
- 2 Which other non-invasive test would you request?
- 3 What systemic treatment should this patient have?
- 4 What are the long term complications of venous thromboembolism?

Submitted by Harpreet Ranu, Emma Holden, and Brendan Madden
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STATISTICAL QUESTION

Describing the spread of data II

Last week's question discussed sample standard deviation. For a variable such as body mass index (BMI), the sample standard deviation provides a measure of the average difference between the BMI of individuals in the sample and the sample mean.

The example used last week was a cohort study: researchers investigated the association between slow walking speed and risk of death in older people. A cohort of 3208 French men and women aged over 65 years living in the community were recruited in 1999 and followed for an average of 5.1 years.

At baseline the cohort had a mean BMI of 25.6 kg/m² with a standard deviation of 4.0 kg/m². The range in BMI that was no further than two sample standard deviations either side of the sample mean—that is, [25.6 - 2(4.0)] to [25.6 + 2(4.0)] kg/m²—equalled 17.6 to 33.6 kg/m².

Which one of the following best describes the approximate percentage of individuals whose BMI at baseline was encompassed by this range?

- a) 95% of the population
- b) 99% or more of the cohort
- c) 95% or more of the cohort
- d) 68% of the population

Submitted by Philip Sedgwick
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ON EXAMINATION QUIZ

Potassium

The answers to these questions, and more questions on this topic, are available from www.onexamination.com/endgames until midnight on Wednesday.

This week's quizzes are on potassium and are taken from the OnExamination revision questions for the FRCA primary exam.

A 63 year old patient has a serum potassium concentration of 6.5 mmol/l (normal range 3.5-4.9).

Hyperkalaemia is associated with which of the following signs?

- A U waves on the electrocardiogram
- B Inverted T waves on the electrocardiogram
- C Muscle weakness
- D QRS widening on the electrocardiogram
- E Hypoactive reflexes

Which of the following strategies may be used effectively in the management of the hyperkalaemia?

- A 10 ml of 10% calcium chloride given intravenously
- B 50 ml of 8.4% sodium carbonate given intravenously
- C 10 ml of insulin given subcutaneously
- D 10 ml of 10% calcium gluconate given intravenously
- E 40 mg of furosemide given intravenously