PICTURE QUIZ
An infant with respiratory distress

A 4 month old African girl presented to the accident and emergency department with a two day history of fever, cough, and poor feeding. She was born full term at a weight of 3000 g. She had no neonatal complications. She was exclusively breast fed and her mother had no history of serious illness. On examination, she had fever, tachypnoea, and tachycardia. Her oxygen saturation was 96% on air. Fine crepitations were heard at the bases of her lungs. A gallop rhythm was detected on cardiac auscultation. Her liver was 2 cm palpable. She had swollen but non-tender wrists. Her full blood count and liver function tests were normal except for an alkaline phosphatase of 942 U/l. Her calcium was 1.5 mmol/l and phosphate 2.16 mmol/l. Radiography of the chest and right wrist was performed.

1 What are the radiological findings?
2 What additional investigations should be requested?
3 What is the most likely diagnosis in this patient?
4 How should the condition be treated?

Submitted by Johnny Carlos, Arwar Ayubi, Fatima Kagalwala, Raghavan Prasad, and Jeewan Rawal
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STATISTICAL QUESTION
Nested case-control studies

The association between suicide and the use of calcium channel blockers in people with hypertension was investigated using a nested case-control study design. Data were taken from the general practice research database, a computerised database of anonymised longitudinal medical records collected prospectively in primary care. The cohort of people with records between January 1991 and August 1998 was used.

At the end of data collection, 38 people who had committed suicide had received a prescription for an antihypertensive drug within six months of their death. One hundred and forty controls—matched for age, sex, general practice, and index date—were selected from the same cohort. The index date was the date of suicide, with controls being treated with an antihypertensive drug on the same date. The study found that calcium channel blockers were not associated with an increased risk of suicide compared with other antihypertensive drugs.

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

a) Cases are people who committed suicide
b) The nested case-control study was retrospective in design
c) The choice of controls was prone to selection bias
d) Data collection was subject to recall bias

Submitted by Philip Sedgwick
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ON EXAMINATION QUIZ Airways

The answers to this question, and more questions on this topic, are available from

www.oneXamination.com/endgames until midnight on Wednesday. This week’s quiz is on airways and is taken from the OnExamination revision questions for the FRCA primary exam.

Which of the following statements concerning the laryngeal mask airway are true?

A A size 2.5 laryngeal mask has a cuff inflation volume of 10 ml
B A size 4 laryngeal mask has an internal diameter of 10 mm
C Downfolding of the epiglottis occurs in 10% of patients
D Reinforced laryngeal masks have a higher flow resistance
E When the laryngeal mask is correctly positioned the black line on the tube should face the lower lip

Cite this as: BMJ 2010;340:c1998

CASE REPORT
An elderly woman with recurrent episodes of confusion

An 84 year old woman presented with intermittent episodes of confusion that had been occurring for over six years. Her sister, with whom she lived, reported that during the episodes, the patient became clammy, confused, and sometimes drowsy. Following one of the early episodes, the patient was investigated for a possible transient ischaemic attack; however, a duplex scan showed only mild carotid disease.

The patient’s symptoms usually occurred at times when she had not eaten for several hours, but occasionally they appeared after a meal. Over the years, her sister had noted that the symptoms could be promptly relieved by giving the patient orange juice. The patient had also learnt to take regular snacks between meals to prevent the symptoms. Consequently, she had gained 9 kg in weight over the six year illness period.

During a particularly severe episode, the patient could not be aroused by her sister and an ambulance was called. The paramedic noted a low capillary blood glucose level of 2.7 mmol/l, and treated her with an intramuscular injection of glucagon. She was fully conscious on arrival at the accident and emergency department. Her serum glucose concentration was 4.1 mmol/l. She had no personal or family history of diabetes mellitus, and was not taking oral hypoglycaemic agents or insulin.

1 What is the likely diagnosis?
2 How would you biochemically confirm your diagnosis?
3 What investigation would you do next to localise the underlying pathology causing the condition?
4 What treatment would you recommend?

Submitted by Augustin Brooks and Bijay Vaidya
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