

## FOR SHORT ANSWERS

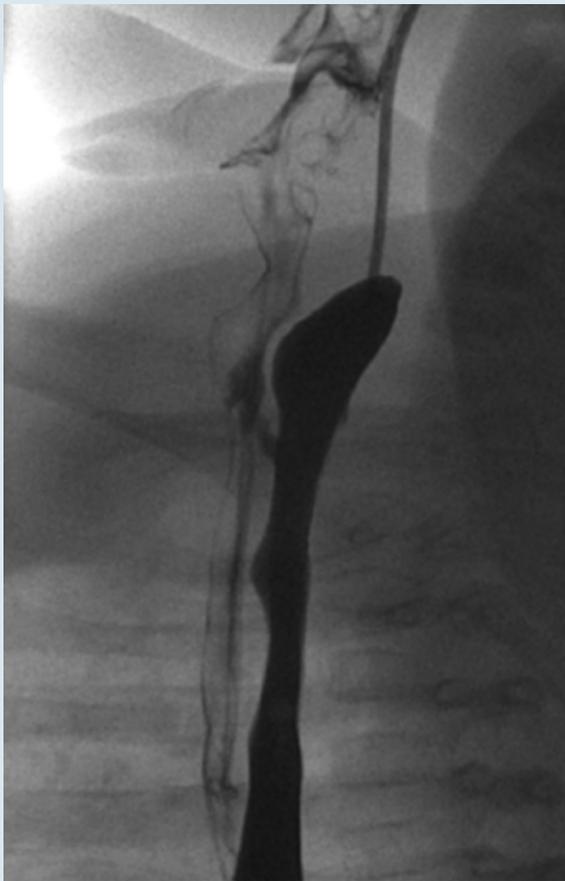
See p 765

## FOR LONG ANSWERS

Go to the Education channel on [bmj.com](http://bmj.com)

# ENDGAMES

We welcome contributions that would help doctors with postgraduate examinations  
See [bmj.com/endgames](http://bmj.com/endgames) for details



## PICTURE QUIZ

### A baby with noisy breathing

A 13 week old boy presented to accident and emergency with fever, breathing difficulties, and reduced feeding. On examination, his respiratory rate was 60 breaths/min, pulse was 180 beats/min, oxygen saturation was 91% in air, and temperature was 37.8°C. He had intercostal and subcostal recession and a tracheal tug. Auscultation of the chest showed widespread wheeze and crackles, and heart sounds were normal. A chest radiograph showed an obscured right heart border and generalised hyperinflation. Blood tests showed a white cell count of  $22.0 \times 10^9/l$ , and a nasopharyngeal aspirate was positive for respiratory syncytial virus on polymerase chain reaction testing.

The boy was born at term by normal delivery with a birth weight of 4100 g. The antenatal course was uneventful. He was kept in hospital for two days after delivery because he was “mucousy.” His parents described him as a noisy and “snuffly” breather since birth, with frequent coughing and “choking” episodes. Because of this he had been seen by his general practitioner and in casualty several times, but he had not been admitted to hospital before. He had been breast fed and was thriving well.

A few hours after admission he suddenly deteriorated after a feed. His pulse rose to 230 beats/min and respiratory rate to 80 breaths/min. Capillary gas showed pH 7.03, partial pressure of carbon dioxide 12.18 kPa, bicarbonate 17 mmol/l, and base excess -7.4. He was admitted to paediatric intensive care and was intubated and ventilated.

He remained intubated for 10 days and two attempts to extubate failed because he developed stridor. Once extubated successfully, we performed further investigations to check for any underlying abnormality. This radiological image was obtained.

- 1 What is the radiological investigation shown and what is the probable diagnosis?
- 2 How can this condition present?
- 3 What further investigations should be performed?
- 4 How should this condition be managed?

Submitted by J Thuerey, D S Urquhart, and G Wilkinson

Cite this as: *BMJ* 2010;341:c4402

## STATISTICAL QUESTION

### Confounding in randomised controlled trials

A randomised controlled trial evaluated the effectiveness of specialised care for early psychosis in one London borough. Participants were 144 people aged between 16 and 40 years presenting to mental health services for the first or second time with non-organic, non-affective psychosis. Using simple random allocation, individuals were allocated to specialised or control care. Specialised care consisted of assertive outreach with evidence based biopsychosocial interventions, whereas control care comprised standard care. Primary outcome measures included the occurrence of relapse within 18 months of follow-up. The unadjusted odds ratio for relapse for patients in the specialised care group compared with those receiving standard care was 0.46 (95% CI 0.22 to 0.97). When adjusted for sex, previous psychotic episode, and ethnicity, the odds ratio was 0.55 (95% CI 0.24 to 1.26).

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

- a) Randomisation of trial participants reduced confounding
- b) Odds ratios were calculated because the trial was retrospective
- c) Sex, previous psychotic episode, and ethnicity confounded the relationship between treatment and relapse
- d) Restricted random allocation would have been more efficient than simple random allocation in controlling for confounding

Submitted by Philip Sedgwick

Cite this as: *BMJ* 2010;341:c5403

## ON EXAMINATION QUIZ

### Sepsis

This week's quiz is on sepsis and is taken from the onExamination revision questions for the MRCS part 1 exam.

A 56 year old man with septic shock is fully ventilated, on continuous veno-venous haemofiltration, and is receiving noradrenaline, vancomycin, and ciprofloxacin. He has a mean arterial pressure of 60 mm Hg, which does not improve after changing from noradrenaline to adrenaline. There is no evidence of myocardial dysfunction.

Which of the following options would be the most appropriate next step in managing this patient?

- A Adrenocorticotrophic hormone (ACTH) stimulation test
- B Administration of activated protein C
- C Change of inotrope
- D Administration of hydrocortisone
- E Administration of nitric oxide

Cite this as: *BMJ* 2010;341:c5476