

FOR SHORT ANSWERS

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FOR LONG ANSWERS

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PICTURE QUIZ

Increasing confusion in a man after a fall—just a head injury?

An elderly man presented with his carer to the accident and emergency department with a recent history of generalised weakness, tiredness, and weight loss. According to his carer, the patient had been having generalised aches and pains and had become increasingly irritable and confused after a head injury during a recent fall.

On examination, his Glasgow coma scale score was 13 and he was mildly disoriented in time and place. Soft tissue swelling was noted over his forehead, which was consistent with his fall. His neurological, cardiovascular, and respiratory examinations were unremarkable. Blood tests showed a haemoglobin concentration of 98 g/L (reference range 130-180), mean cell volume 87 fl (82-100), urea 10.9 mmol/L (2.5-7.5), creatinine 172 μ mol/L (46-92), calcium 3.32 mmol/L (2.1-2.55), total protein 120 g/L (63-82), albumin 22 g/L



Lateral skull radiograph

(35-50), white cell count 3.9×10^9 /L (4-11), neutrophil count 2.4×10^9 /L (2-7.5), and erythrocyte sedimentation rate 98 mm in the first hour (<10).

In view of his altered consciousness level and history of head injury, he was referred for a cranial computed tomography, which showed age related involutional change and no acute intracranial haemorrhage. However, lucent areas were identified in the skull vault and a lateral skull radiograph was performed for further evaluation (figure).

- 1 What are the radiographic findings?
- 2 Given the patient's history, blood results, and radiographic findings, what is the most likely diagnosis?
- 3 What further investigations would you request and why?
- 4 What is the management of this condition?

Submitted by K Birdi, J Weir-McCall, R Grace, and D C Howlett

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STATISTICAL QUESTION

Non-randomised studies

In March 2008, a regulation was introduced in New York City that required restaurants to provide calorie information on all food purchases. The regulation applied only to restaurants with 15 or more stores nationwide. Researchers assessed the effects of the regulation on individual purchases. The primary outcome was the energy content of individual purchases, based on customers' register receipts and the information provided on menus within the restaurant.

A random sample of 168 locations of the most popular fast food chains in New York City was obtained. For nine weeks in the spring of 2007 and then again in the spring of 2009, all adult lunchtime customers at the sampled locations were interviewed. In total, 7309 adult customers were interviewed in 2007 and 8489 in 2009. The mean number of calories purchased after the regulation was slightly higher than that before, although the difference was not statistically significant (846 v 828; $P=0.22$).

Which one of the following best describes the above study design?

- a) Non-randomised controlled trial
- b) Cohort study
- c) Before and after study
- d) Cross sectional study

Submitted by Phillip Sedgwick

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ON EXAMINATION QUIZ

Fever in a returning traveller

This week's question is on fever in a returning traveller and is taken from the onExamination revision questions for the MRCP Part 2 examination.

An 18 year old student returns from a two month backpacking tour of central and South East Asia. During his trip he stayed in various hostels and on a few farms.

Four weeks after his return he presents to the emergency department with an eight week history of myalgia, weakness, and an undulant fever.

Blood tests results are as follows:

Haemoglobin: 140 g/L (reference range 130-180)

White blood cell count: 7×10^9 /L (4-11)

Platelets 90×10^9 /L (150-400)

Bilirubin 30 μ mol/L (2-17)

Alanine aminotransferase 70 U/L (5-30)

Alkaline phosphatase 110 U/L (25-100)

Blood cultures grow coccobacilli after six weeks of incubation.

What is the most likely diagnosis?

- A Brucellosis
- B Dengue fever
- C Malaria
- D Rabies
- E Tuberculosis