ENDGAMES

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ON EXAMINATION QUIZ

Paediatric haematology

The answer 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 paediatric haematology and is taken from the OnExamination revision questions for part 2 of the MRCPCH exam.

These blood test results are from a girl of eleven months who has purpura.

Haemoglobin 10.7 g/dl (11.5-16.5)
White cell count 11.4x10^9/l (4-11)
Platelet count 14x10^9/l (150-400)
Activated partial thromboplastin time 1.1 s
Prothrombin time 16 s (11.5-15.5)
International normalised ratio 1.0 (<1.4)
Fibrinogen 2.1 g/l (1.8-5.4)
Fibrin-fibrinogen degradation products normal

What is the most likely diagnosis?

A Accidental injury
B Acute lymphoblastic leukaemia
C Idiopathic thrombocytopenic purpura
D Non-accidental injury
E Von Willebrand's disease

PICTURE QUIZ

A boy frightened of going to bed and bumps in the night

An 8 year old boy of Indian origin presented to his local hospital with a three week history of worsening respiratory symptoms. He was previously fit and well, had not been febrile, and his only medical history was a recent visit to his general practitioner because he "found it hard to catch his breath at night." He was becoming increasingly scared of going to bed at night and his mother was also concerned about some bumps that she could feel on his scalp while stroking his head in bed.

A chest radiograph was performed.

The decision was made to drain in theatre under general anaesthetic what was assumed to be a right sided pleural effusion.

Upon induction, the patient became apnoeic and was difficult to ventilate. He then became asystolic and cardiopulmonary resuscitation was commenced. Emergency bronchoscopy was required to establish an airway and cardiac output was restored after 20 minutes of cardiopulmonary resuscitation.

Blood tests were undertaken and his initial blood results were as follows (normal ranges in brackets):

Haemoglobin 117 g/l (115-155)
White blood cell count 6.35x10^9/l (6.0-18.0)
Platelet count 125x10^9/l (150-450)
Lactate dehydrogenase 3406 U/l (432-700)
Uric acid 1170 µmol/l (135-320)
Urea 8.9 mmol/l (2.5-6.0)
Creatinine 95 µmol/l (35-80)
Calcium 2.12 mmol/l (2.19-2.66)
Magnesium 0.83 mmol/l (0.7-0.95)
Phosphate 4.34 mmol/l (1.1-1.75)
Albumin 25 g/l (37-56)
Alkaline phosphatase 50 U/l (200-495)
C reactive protein 80 mg/l (<10)

1 Describe the signs on the radiograph and the differential diagnosis.
2 What further investigations are needed to aid diagnosis?
3 What emergency treatment is required?

Submitted by C James, A Gupta, D Cheng, S Padley, N Goulden, and S Skellett
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STATISTICAL QUESTION

Study design

Researchers investigated whether the incidence of schizophrenia differed between ethnic groups. Fifteen electoral wards in south London were studied and cases of schizophrenia were identified from hospital computer records. Ethnicity was established using UK census data. Data for both schizophrenia and ethnicity were aggregated for the local population in each electoral ward. When the 15 electoral wards were compared, those wards that had the largest proportion of residents who identified with a non-white ethnicity also had the highest number of cases of schizophrenia diagnosed at hospitals in that electoral ward.

Which answer best describes the epidemiological study design used here?

a) Case-control study
b) Prospective cohort study
c) Ecological study
d) Nested case-control study

Submitted by Philip Sedgwick
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CASE REPORT

Black and blue . . . and unconscious

A comatose 29 year old male was brought to the emergency department. The patient was an international truck driver, and he and his co-driver had slept the night before in their truck at a car park near the motorway. The next morning, the co-driver found the patient in a comatose state in the sleep cabin of their truck. The attending neurologist observed a Glasgow coma score of four (E1-M2-V1) with fixed dilated pupils and no cornea and ocular cephalic brainstem reflexes. Furthermore, the patient had multiple petechiae on the left side of the throat and symmetrical bruises on the anterior medial side of both upper legs. Otherwise, physical investigation was unremarkable.

1 What initial investigations are appropriate?
2 What is the most likely diagnosis?

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