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CASE REPORT

A noisy teenager

A 13 year old boy was referred for evaluation of his troublesome asthma symptoms. He had a six month history of episodic acute dyspnoea on minimal exertion—for example, climbing stairs. Between episodes he could exercise maximally without difficulty. Dyspnoea was accompanied by a loud inspiratory noise, described as “wheeze” but not cough. The episodes occurred only at school, lasted for five to 10 minutes, and resolved completely.

He was diagnosed with asthma when he was 2 years old because of nocturnal cough, and he had been treated with inhaled steroids until recently. His father reported that his son's pulse raced in the morning. On examination he was well. His height and weight both lay on the 75th centile. He had no stigmata of chronic lung disease, such as fingernail clubbing or chest wall deformity. He had a hoarse voice.

The results of chest radiography and pulmonary function testing were normal. Electrocardiography showed a sinus tachycardia of 120 beats per minute. A diagnosis of vocal cord dysfunction was made and the boy was referred for speech therapy.

One month later he developed nausea and vomiting, and was noted to have lost weight. His thyroid stimulating hormone concentration was <0.1 mIU/l and free T4 was 71 pmol/l (5.5 ng/dl).

On review, after starting antithyroid treatment (propranolol and carbimazole), his episodes of acute dyspnoea and noisy breathing had almost resolved.

- 1 What was the noise reported by his parents as wheeze?
- 2 What aspects of the patient's respiratory history go against a diagnosis of asthma?
- 3 How common is thyrotoxicosis in children?

Submitted by Stephen W Turner

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PICTURE QUIZ



Wrist radiograph of an 11 month old girl with bilateral wrist swelling

Submitted by R Hodgkinson, D S Urquhart, L Thia, S Padley, A Bush, Atul Gupta
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An 11 month old girl with bilateral wrist swelling

An 11 month old girl presented to the paediatric department with a lower respiratory tract infection. She also had failure to thrive and mild motor developmental delay. On examination, she had swollen wrists bilaterally. A radiograph of her right arm is shown here. Her blood results were urea 4.3 mmol/l, creatinine 29 µmol/l, corrected calcium 2.47 mmol/l, alkaline phosphatase 3340 U/l, and phosphate 1.88 mmol/l.

- 1 Describe the radiological abnormalities shown in the figure.
- 2 What is the likeliest cause for the x ray appearance and blood test results?
- 3 How else might this condition present clinically?

STATISTICAL QUESTION

Relative risk

A trial of antibiotics for treating community acquired pneumonia showed that the relative risk of death was 0.5 with a P value of 0.01. Which one of the following is a possible 95% confidence interval for the relative risk?

- | | |
|-------------------|-----------------|
| a) (-0.8 to -0.3) | c) (0.3 to 0.8) |
| b) (0.2 to 1.6) | d) (1.2 to 1.6) |

Submitted by John Fletcher Cite this as: *BMJ* 2008;337:a2295

PRIZE QUIZ: Blood transfusion

Each week we offer a prize of a *BMJ* memory stick to the person who answers correctly, in the quickest time, a set of examination questions taken from OnExamination. To enter the quiz, go to www.onexamination.com/endgames. The competition closes at midnight on Wednesday, and the winner will be announced in the print *BMJ*.

Answers to this question can be viewed at
www.onexamination.com/Endgames/LastEndgame.aspx.

The winner of the prize quiz on depression was Katherine Mckee

Here's one question from this week's quiz on blood transfusion from a range of examinations:

Which of the following statements regarding blood groups and blood products are true?

- The ABO system is inherited in an autosomal dominant pattern
- Group O and Rhesus positive is the universal donors' blood
- Stored whole blood contains dextrose, phosphate, and citrate
- Stored blood becomes progressively more acidotic and hyperkalaemic with time
- Stored blood contains a normal amount of clotting factors