ques such as ultrasonography and CT in recent years, has permitted important advances in the diagnosis and the treatment of psoas abscesses. Even though potential complications related to percutaneous drainage such as septicaemia, haemorrhage, peritoneal spillage, or fistula formation have been rarely described, it is currently the treatment of choice because it carries less mortality and morbidity than open surgery.⁵

Final diagnosis

Primary psoas abscess due to *Haemophilus aphrophilus*.

Keywords: psoas abscess, *Haemophilus aphrophilus*

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More than an ankle sprain

F J Andrews

A 27-year-old woman was seen in the Accident & Emergency department with a vague history of pain in the left ankle. The patient thought that she may have sustained a minor injury in the swimming bath on the day before presentation but unfortunately the mechanism of injury was not recorded. She was seen by the casualty officer who felt that there was no evidence of a fracture on the X-ray, diagnosed a simple sprain and treated the patient with a tubigrip bandage. Following review of the X-rays (figure) the patient was recalled to the Accident & Emergency review clinic. It transpired that the patient had Down's syndrome and was under treatment for an atrioventricular canal defect with irreversible pulmonary hypertension.

Questions

- 1 What condition do the X-rays show?
- 2 What are the principal causes?

Department of
Accident and
Emergency Medi-
cine, Leeds General
Infirmary, Great
George Street, Leeds
LS1 3EX, UK
FJ Andrews

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Figure X-Rays of left ankle

Answers

QUESTION 1

The X-ray shows periosteal thickening along the shafts of the tibia and fibula consistent with hypertrophic osteoarthropathy (HPO).

QUESTION 2

HPO is the association of finger clubbing, chronic proliferative periostitis of long bones and oligosynovitis or polysynovitis. The primary form (pachydermoperiostosis) is usually inherited but may occur as an idiopathic form in adults. Pachydermoperiostosis is thought to be transmitted by an autosomal dominant gene and such patients may exhibit additional clinical features, including excessive sweating and coarse facial features.¹

Secondary HPO usually presents in adults. It is associated with a variety of pulmonary, cardiovascular and gastrointestinal conditions and in particular infection and intrathoracic neoplasms. There is also an association with other neoplasms, connective tissue disorders and hyperthyroidism (thyroid acropachy). HPO may precede symptoms of the underlying condition and therefore such a diagnosis requires careful assessment of both the cardiorespiratory and gastrointestinal systems, a chest X-ray being mandatory. In childhood, secondary HPO is usually related to pulmonary sepsis or congenital heart disease, and in the case of a patient with Down's syndrome the commonest congenital heart defect would be an atrioventricular canal,² seen in our patient.

Discussion

Currently, the aetiology of HPO remains unknown. The 'neurogenic-impulse-induced-vasodilatation' theory is based on the observation that the symptoms of HPO can be improved or even reversed by vagotomy, however associated clubbing in such a patient

Classification of hypertrophic osteoarthropathy

Primary

- pachydermoperiostosis
- idiopathic

Secondary

- pulmonary disease: fibrosis, chronic infection, carcinoma
- cardiovascular disease: endocarditis, cyanotic heart disease
- gastrointestinal: carcinoma, inflammatory bowel disease, cirrhosis
- miscellaneous: connective tissue disease, lymphoma
- thyroid acropachy

may not be influenced. The 'shunt' theory proposes that the cause of HPO is a substance which is able to pass from the venous circulation to the systemic arterial circulation, which would normally be altered or destroyed in the lungs.³ It has been proposed that these substances are platelet clumps that have avoided fragmentation in the lungs and subsequently release platelet-derived growth factor when they impact in peripheral capillaries.⁴ This growth factor is known to increase vascular permeability and stimulate fibroblasts. Support for the 'shunt' theory is strengthened by the observation that patients with a patent ductus arteriosus distal to the left subclavian artery who have a right-to-left shunt secondary to pulmonary hypertension develop HPO only in the lower limbs.

Final diagnosis

Hypertrophic osteoarthropathy secondary to cyanotic congenital heart disease.

Keywords: hypertrophic osteoarthropathy, cyanotic congenital heart disease, Down's syndrome

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