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PICTURE QUIZ

“It’s just a muscle sprain”

A 10 year old boy presented to his general practitioner with a four week history of left mid-thigh pain with no associated history of systemic symptoms. He had no memory of a preceding trauma and no history of infection, locally or systemically. The pain was relapsing and remitting in its extent and frequency. It was also activity related, with occasional night waking and pain at rest. His GP took a full history, conducted a complete hip examination, and at initial presentation decided that the pain was caused by a muscle sprain.

Two months later the pain has not abated and the child re-presented to his GP, who requested a plain radiograph of the hip, the results of which were normal. A further three months later, his father noticed an associated distal thigh mass and immediately took the boy to the emergency department. On presentation to hospital, he was walking pain free but had an obvious mass, which did not limit his range of movement.

He did not have a fever; his C reactive protein was 6 mg/L, erythrocyte sedimentation rate was 4 mm in the first hour, and total white blood cell count was $8 \times 10^9/L$. The on-call orthopaedic team requested anteroposterior and lateral radiographs of the thigh (figs 1 and 2).

- 1 Are there any red flag symptoms in the initial presenting history?
- 2 Given this history, what other examination findings would be relevant?
- 3 Would femoral radiography and its related radiation exposure have been warranted at an earlier stage?
- 4 What do the anteroposterior and lateral radiographs taken six months after the onset of pain show?
- 5 What would be the next stage in this boy’s management?

Submitted by Rej Bhumbra, William Aston, and Rob Pollock

Cite this as: *BMJ* 2013;346:f2503



Fig 1 | Anteroposterior radiograph of the distal femur



Fig 2 | Lateral radiograph, midshaft femur

STATISTICAL QUESTION

Generalisation and extrapolation of study results

Researchers assessed the effectiveness of peritendinous autologous blood injections in patients with mid-portion Achilles tendinopathy. A randomised double-blind controlled trial was performed. The intervention consisted of two unguided peritendinous injections with 3 mL of the patient’s whole blood given one month apart. The control group had no substance injected (needling only). Participants in both groups carried out a standardised and monitored 12 week eccentric calf training programme.

In total, 53 adults (mean age 49 years, 53% men) were recruited from a sports medicine clinic in New Zealand. Inclusion criteria included age over 18 years and presentation with first episode of mid-portion Achilles tendinopathy. Symptoms had to be present for at least three months, with the diagnosis confirmed by diagnostic ultrasonography.

The primary outcome measure was change in symptoms and function from baseline to six months as assessed by the Victorian Institute of Sport Assessment-Achilles (VISA-A) score. Significant improvements in the VISA-A score were seen at six months in the intervention group (change in score 18.7, 95% confidence interval 12.3 to 25.1) and control group (19.9, 13.6 to 26.2). However, the overall effect of treatment (intervention minus control) at six months was not significant (−1.2, −10.0 to 7.9; $P=0.689$).

On the basis of the above trial, which of the following conclusions, if any, would be justified?

- a) The results would also be applicable to adults at other sports medicine clinics
- b) Significant improvements in the primary outcome would continue to be seen at 12 months in both treatment groups
- c) The overall effect of treatment would not be significant at 12 months

Submitted by Philip Sedgwick

Cite this as: *BMJ* 2013;346:f3022