Avulsion-fracture of the anterior superior iliac spine with meralgia paresthetica: a case report

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ABSTRACT

We present a rare case of avulsion-fracture of the anterior superior iliac spine with meralgia paresthetica in a 16-year-old male basketball player. He had sensory disturbance affecting his left lateral thigh 10 days after the injury. Tinel’s sign was elicited on percussing the avulsed bony fragment of the anterior superior iliac spine. He underwent open reduction and internal fixation. The lateral femoral cutaneous nerve was noted to be entrapped by one third of the avulsed bony fragment. That fragment was removed, and the remaining portion was reduced and fixed with 2 screws. At week 6, the patient had returned to basketball playing without pain. At week 8, sensory distribution in the left lateral thigh had returned to normal.

Key words: basketball; fracture, bone; ilium; meralgia paresthetica

INTRODUCTION

Avulsion-fractures of the anterior superior iliac spine are unusual injuries and mostly occur during the kicking phase of running, football, and long-jumping,1,2 when the sartorius and tensor fascia lata muscles contract suddenly against a hyperextended trunk. Meralgia paresthetica is a neuropathy of entrapment of the lateral femoral cutaneous nerve. Two cases of anterior superior iliac spine avulsion-fracture associated with meralgia paresthetica have been reported.3,4

CASE REPORT

In December 2009, a 16-year-old man presented with swelling and tenderness of the left anterior superior iliac spine but no sensory disturbance. He had experienced sudden onset of sharp pain in the left pelvis while playing basketball a day earlier. Radiographs revealed an avulsion-fracture of the anterior superior iliac spine with minimum displacement. The patient was treated conservatively with pain relief, limitation of activities, and crutches.

One week later, the patient had sensory disturbance affecting his left lateral thigh. Tinel’s sign was elicited on percussing the avulsed bony fragment of the anterior superior iliac spine. A conduction test for the lateral femoral cutaneous nerve was performed, and it was normal. The patient underwent open reduction and internal fixation. The lateral femoral cutaneous nerve was noted to be entrapped by one third of the avulsed bony fragment. That fragment was removed, and the remaining portion was reduced and fixed with 2 screws. At week 6, the patient had returned to basketball playing without pain. At week 8, sensory distribution in the left lateral thigh had returned to normal.

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nerve yielded inhibition of the amplitude of the sensory nerve action potential on the left side, indicative of meralgia paresthetica. The displacement of the avulsed bony fragment had increased to 2 cm caudally on computed tomography (Fig. 1). He underwent open reduction and internal fixation 10 days after the injury. The lateral femoral cutaneous nerve was noted to be entrapped by one third of the avulsed bony fragment (Fig. 2). That fragment was removed, and the remaining portion was reduced and fixed with 2 screws.

Walking with full weight bearing was allowed immediately. At week 6, the patient had returned to basketball playing without pain. At week 8, sensory distribution in the left lateral thigh had returned to normal.

DISCUSSION

Meralgia paresthetica is characterised by pain, burning, tingling or numbness in the anterolateral surface of the thigh in the region supplied by the lateral femoral cutaneous nerve. This nerve crosses the ilium obliquely and passes into the thigh by traversing under or through the inguinal ligament at a variable distance medial to the anterior superior iliac spine. In our patient, the lateral femoral cutaneous nerve originally passed some distance medial to the anterior superior iliac spine and was pulled down beneath it as a result of the fracture. The nerve was then entrapped by one third of the avulsed bony fragment.

Acute onset of meralgia paresthetica should be treated conservatively, as it could be caused by oedema and haematoma irritating the nerve rather than by direct contact between the nerve and the avulsed anterior superior iliac spine fragment. In our patient, the onset of meralgia paresthetica was not acute but ensued gradually one week after injury, suggesting entrapment of the nerve by the displaced avulsed bony fragment. Operative treatment enables early return to sports activity.

REFERENCES