Bilateral stress fractures of the ulnae in a Kendo (Japanese fencing) player

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Abstract

A case of bilateral stress fractures of the ulnae in a Kendo (Japanese fencing) player is reported; the mechanism of the fractures, particularly the difference in the site of fracture between the right and left ulna, is discussed.

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Keywords: stress fracture; ulna; bilateral; Kendo (Japanese fencing)

Stress fractures of the ulna are uncommon, but unilateral fractures of the diaphysis of the ulna in athletes from various sports have previously been reported.¹⁻⁸ There have been no reports of bilateral stress fractures of the diaphysis of the ulnae caused by sports activities in the English literature. The following is a case report of bilateral stress fractures of the diaphysis of the ulnae in a Kendo (Japanese fencing) player.

Case report

A 15 year old right handed male Kendo player had a three week history of right mid forearm pain which developed after a week of hard training at a special camp. He was a beginner at the sport and the training camp was his first

Figure 2 ^{99m}Tc bone scan showing a very intense increase in tracer concentration localised at the middle third of the right ulna and spread out at the junction of the middle and distal thirds of the left ulna.

Figure 1 Initial anteroposterior (A) and lateral (B) radiographs of the right forearm showing a mildly sclerotic lesion accompanied by periosteal new bone formation at the middle third of the right ulna.

Figure 3 T1-weighted magnetic resonance image showing cortical thickening and an area of low signal intensity in the intramedullary space.

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Figure 4 Anteroposterior radiographs of the right (A) and left (B) forearm four weeks after the onset of symptoms showing further periosteal new bone formation in the right ulna and a broad sclerotic lesion at the junction of the middle and distal thirds of the left ulna.

experience. He denied the occurrence of any specific incident of trauma, such as repeated contact or blows to the forearm from an opponent. The training mainly consisted of repeated swinging of the sword. He had tenderness and a swelling on the middle third of the right ulna.

Radiographs showed a mildly sclerotic lesion accompanied by periosteal new bone formation at the middle third of the right ulna (fig 1). Because a stress fracture of the ulna was strongly suspected, we advised him to stop training. He decreased his training, but did not stop, and after three weeks re-presented complaining of continuous pain.

A technetium-99m (^{99m}Tc) scan and magnetic resonance imaging were performed. The ^{99m}Tc scan showed a very intense increase in tracer concentration localised at the middle third of the right ulna and it had spread at the junction of the middle and distal thirds of the left ulna (fig 2). Magnetic resonance imaging showed cortical thickening and an area of low signal intensity in the intramedullary space on T1-weighted images (fig 3). In blood tests, alkaline phosphatase activity was slightly increased. Radiographs showed further periosteal new bone formation at the middle third of the right ulna and a broad sclerotic lesion at the junction of the middle and distal thirds of the left ulna. No fracture line was identified in either ulna (fig 4).

A diagnosis of bilateral stress fractures of the ulnae was made. The patient was immediately prohibited from exercising and instructed to rest. Eight weeks later, the pain had subsided and the tenderness had disappeared. He was allowed to return to Kendo training. Twelve months later, the fracture was completely

Figure 5 Anteroposterior radiographs of the right (A) and left (B) forearm after 12 months showing only a slight cortical thickening.

healed. Radiographs showed only a slight cortical thickening (fig 5). There was complete absence of pain.

Discussion

Bilateral stress fractures of the ulnae are extremely rare. There is no previous report in the English literature, and only two cases have

Figure 6 Lateral view of a Kendo player. He swings the sword up (A) and down (B) repeatedly. The proximal end of the sword is grasped with the left hand and a site further forward is grasped with the right (C).

been reported in the Japanese literature. The first case was of a 15 year old female Kendo player,⁹ and the second a 15 year old female synchronised swimmer.¹⁰

In Kendo, a player uses a special sword (a *Sinai*), which weighs about 500 g and is 115 cm long. A Kendo player grasps the sword with both hands and swings it up and down. During training, the player swings the *Sinai* up and down repeatedly. In the present case, as the camp represented the first experience of Kendo for the patient, we think that the excessive training caused the stress fracture of the right ulna. As he did not stop training after the onset of pain in the right forearm, he may subsequently have supported the *Sinai* mainly with his left hand. The continued swinging of the *Sinai* with the painful right forearm probably caused the bilateral stress fractures of the ulnae. The proximal end of the *Sinai* is grasped with the left hand and a site further forward is grasped with the right (fig 6). This probably

caused the difference in the site of the stress fractures between the right and left ulna.

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Posterior dislocation of the hip while playing basketball

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Abstract

Injuries in basketball are usually to the ankles and knees. Dislocation of the hip is usually associated with severe trauma—for example, road traffic accidents. A case is reported here in which a 22 year old club basketball player slipped on landing from a jump shot, forcing him into a side splits position from which he sustained a posterior dislocation of the hip resulting in a sciatic nerve palsy.

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Keywords: basketball; hip dislocation; sciatic nerve palsy

Case report

The patient was a 22 year old club basketball player, 190 cm tall and weighing 80 kg, who jumped for a ball during the first period of a club match. On landing he slipped on a wet patch on the court forcing abduction of both hips and driving his legs into a side splits position. The patient was immediately in severe pain and unable to move the left hip. He was taken to the local accident and emergency department where an x ray examination confirmed the clinical diagnosis of a posterior dislocation of the left hip. At this time it was also noted that he had a palsy of the deep peroneal branch of the sciatic nerve resulting in a foot drop. The hip was reduced under a general anaesthetic within two hours of being seen by an orthopaedic surgeon. Clinically there was no evidence of any joint hypermobility and the patient could not recall any previous problems with, or injuries to, his hips. A computed tom-

ography scan of the acetabulum after reduction showed no associated fractures.

After the operation there remained a persistent palsy of the common peroneal branch of the sciatic nerve with a foot drop. This was confirmed by electromyography performed three months after the injury. At six months there was a positive Tinel's sign over the sciatic nerve in the mid-thigh suggesting some sciatic nerve recovery.

Discussion

Basketball requires strength and speed, both running and jumping being an integral part of the game. The injury rate is 88 per 1000 person years exposure, with 56% of the injuries occurring during competitive play.¹ Some 31% of the injuries are to the ankle with a further 25% to the rest of the lower limb, predominantly the knee.¹ To our knowledge dislocation of the hip has never been reported before in association with basketball.

Hip dislocation in the adult is uncommon and is usually the result of road traffic accidents. The "dashboard" injury in which the patella strikes the car dashboard, driving a flexed hip backwards into the acetabulum is the most common mechanism. Hip dislocation has also been reported in skiing, biking, and sledging injuries.²

Dislocation may be in a number of directions (anterior, inferior, or posterior) and may or may not be associated with acetabular fracture. Diagnosis is usually made on a clinical basis and confirmed by an anteroposterior radiograph of the pelvis. Closed reduction under a

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