

From the clinic

Two cases of acetabular fractures sustained during competitive cycling

A Bass* and M E Lovell†

* Department of Orthopaedics, Noble's Isle of Man Hospital, Westmoreland Road, Douglas, Isle of Man, UK

† Department of Orthopaedics, Warrington Hospital, Warrington, Lancashire, UK

This paper reports two cases of posterior acetabular fracture obtained in an almost identical way in competitive cycling and presents potential diagnostic difficulties.
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Keywords: acetabular fracture; competitive cycling

Case 1

A 32 year old man presented after being involved in a crash while racing in which he fell onto his left side

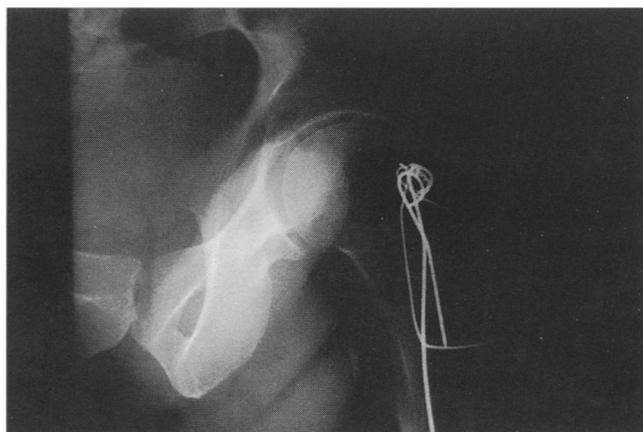


Figure 1.

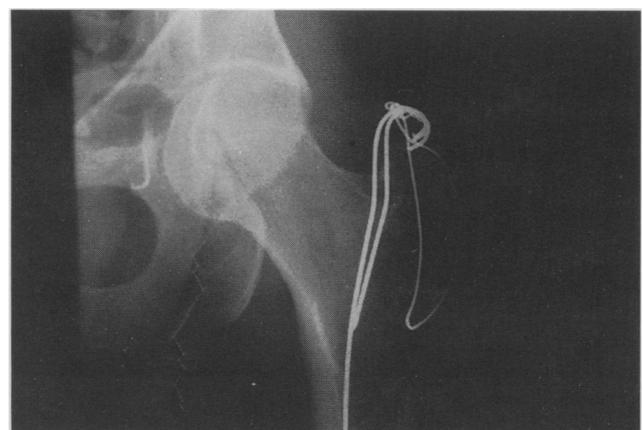


Figure 2.

while still astride his cycle, as he was clipped into his pedals. He presented the same day with pain in his left hip and limited range of movements. He gave a previous history of an avulsion fracture of the left greater trochanter one year before.



Figure 3.

Initial *x* rays (Figure 1) did not show the fracture clearly, but subsequent oblique views (Figure 2) showed a posterior fracture of the acetabulum which was undisplaced.

He was treated with three weeks' bed rest on skin

Correspondence to Mr A Bass FRCS

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traction, then mobilized from non-weight bearing to partial weight bearing, and is now fully recovered.

Case 2

A 48 year old man presented after being involved in a crash with other riders and landing on his left side while his toes were strapped into his pedals. He presented two days after his injury with left hip pain, limited range of movement, and pain on bitrochanteric pressure. Plain x ray (Figure 3) showed an undisplaced posterior acetabular fracture. He was treated with three weeks' bed rest, then mobilised non-weight bearing, and he made a full recovery.

'Gilmore's groin'—or is it?

Paul Williams and M E Foster

East Glamorgan General Hospital, Pontypridd, Mid Glamorgan, UK

Groin injuries are a common and often difficult diagnostic problem. This paper reviews six patients presenting with symptoms highly suggestive of the syndrome 'Gilmore's groin', but in whom the pathophysiology of the groin disruption and its surgical management differed from Gilmore's description.

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Keywords: groin injury; Gilmore's groin; pathophysiology of groin disruption; surgical management

Groin injuries are common in sport and their management must be based on accurate diagnosis. This is difficult, as symptoms and signs are often diffuse and non-specific. Many patients undergo lengthy periods of conservative management and numerous radiological investigations before surgical intervention is contemplated.

A syndrome of groin disruption has been described as 'Gilmore's groin'.¹ Patients present with chronic groin pain which is aggravated by sudden and twisting movements and, in particular, by the action of kicking a ball, coughing and even sneezing; even rolling over in bed may be enough to exacerbate symptoms. Few patients recall an actual 'event' or moment when the injury was first sustained. Other authors have used the terms 'pubalgia',² 'groin disruption',³ and 'the sportsman's hernia'⁴ to describe the syndrome.

Gilmore's description includes a lack of visible external signs in the affected groin, dilatation of the superficial inguinal ring (felt by inversion of the scrotum with the little finger tip), a cough impulse, and marked

Discussion

We believe these cases provide three important messages. Firstly, cyclists who are attached to their pedals by straps or clips are likely to tumble with their bicycle and fall directly onto one or other hip, thus sustaining this kind of injury to the pelvis. Secondly, they may present days later with mild symptoms but should have x ray pictures to exclude this type of fracture. Thirdly, it is easy to miss such fractures on plain views and it could be argued that cyclists who sustain direct blows to the hips, or who present with hip pain following a fall, should have oblique views of the pelvis to exclude the presence of a fracture and thus avoid the problems that may ensue if they are not treated correctly.

tenderness on the affected side, although he does not specify the anatomical site of this tenderness.

We report a series of patients who presented with symptoms and signs highly suggestive of 'Gilmore's groin', but in whom the pathophysiology of the groin disruption and its surgical management differed from Gilmore's description.

Patients

All complained of chronic groin pain exacerbated by sudden sharp movements, especially when kicking. Patient 1 also complained of pain in the groin when rolling over in bed. In all patients, tenderness was elicited just above the deep inguinal ring, but no dilatation of the superficial inguinal ring was noted and no cough impulse or hernia was identified.

All patients claimed relief of symptoms following operation. In patient 1 relief was virtually instantaneous on waking from his general anaesthetic. Patient 5 underwent bilateral groin exploration and repair. All patients returned to full active participation in their chosen sport within 6 weeks of operation.

Follow up at 6 weeks revealed no further pain. Only one patient has since suffered further pain (patient 5) and this was from a new adductor origin strain.

Discussion and pathophysiology

Gilmore describes the pathophysiology of the groin disruption as being caused by a number of combined factors: (1) a torn external oblique aponeurosis causing dilatation of the superficial inguinal ring; (2) a torn conjoint tendon; (3) dehiscence between the inguinal ligament and the torn conjoint tendon, constituting the major injury.

Address for correspondence: Mr Michael Foster FRCS, East Glamorgan General Hospital, Church Village, Pontypridd, Mid Glamorgan CF38 1AB, UK.