ACETABULAR FRACTURES IN OLDER PATIENTS

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Retrospective review of 25 patients over 65 years of age with unilateral acetabular fractures managed conservatively showed that seven of the 23 survivors (30%) had an unacceptable functional result. Poor results were associated with: displaced posterior column fractures, osteoporosis, femoral head fracture, delayed diagnosis, inadequate radiographs, inappropriate or too brief traction, and early weight-bearing.

In this age group acetabular fractures tend to be low-velocity injuries of osteoporotic bone and are not comparable with those in younger patients.

The diagnosis and management of acetabular fractures has been under discussion. Tile (1984) distinguished between older patients with osteoporotic bone and younger ones with normal bone and suggested that the former may not be suitable for treatment by internal fixation. Although Letournel and Judet (1981) have reported 55 patients over 60 years of age treated in this way with satisfactory results, most clinicians feel that internal fixation is not a practical proposition in this age group.

The known disadvantages of prolonged immobilisation led to many advances in the management of femoral neck fractures in the elderly, but little progress has been made in the management of fractures of the acetabulum. A series of 25 such patients treated without operation was reviewed retrospectively.

PATIENTS AND METHODS

From 1983 to 1988 a total of 25 patients aged 65 to 95 years (average 74 years) with unilateral acetabular fractures were managed non-operatively at Addington Hospital and King Edward VIII Hospital, Durban. There were 16 women and 9 men. Two patients died as a result of their injuries, 23 were reviewed after follow-up from 9 to 52 months.

Each case was assessed for mechanism of injury, other injuries, delay in diagnosis, fracture type (Letournel and Judet 1981), initial displacement, quality of reduction, late displacement, radiological osteopenia, radiographic investigation, type and duration of traction, and the final clinical and radiological result. The functional results were recorded as: A, able to return to previous level of activity; B, able to walk but only with severe pain; C, incapacitated.

RESULTS

The mechanism of injury was a simple fall in 14 cases, injury as a car passenger in five, as a pedestrian in five (all left-sided) and as a cyclist struck by a car in one.

Other injuries were sustained by 11 patients. There were three who had fractures of the ipsilateral femoral head. Two had an undisplaced shear fracture of the head which was missed at presentation; both had poor results though not entirely because of the femoral head fracture. One patient had an impacted fracture of the head in association with a posterior wall acetabular fracture; this

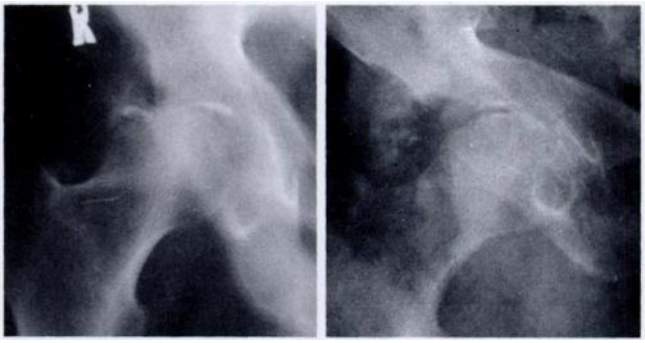

Fig. 1a Fig. 1b

A posterior wall fracture with an associated fracture of the femoral head shown on tomography (a) in a 66-year-old man. After six months (b) there is severe heterotopic bone formation.

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injury resulted in considerable heterotopic new bone formation (Fig. 1). The acetabular fracture was missed on first presentation in three patients; two of them had a poor outcome (Figs 2 and 3).

The type of fracture was difficult to assess retrospectively because of the lack of adequate radiographs. In 11 of the 23 cases the fracture involved the iliopubic line anteriorly, and possibly the ilio-ischial line; these were probably transverse fractures. Five fractures involved the posterior column only, one of which was 'juxtatectal'. Four fractures involved both columns with evidence of separation, and were probably T-shaped. Two fractures clearly involved the anterior column only, although others may have been included in the transverse group. One fracture involved the posterior wall only, with an impacted head fracture and posterior dislocation (Fig. 1).

There was no gross initial displacement in 17 patients, and in the others, the initial reduction was generally satisfactory, although no attempt at lateral traction had been made in difficult cases. However, displacement had occurred after initiation of traction in four cases, and all four had a poor result. Radiological osteopenia was seen in 14 patients, five of whom had a poor result (B or C), generally due to late displacement. Only six of the 25 cases had had tomograms and/or oblique views in addition to anteroposterior radiographs of the pelvis.

Of the 23 surviving patients, nine had had traction for less than six weeks; in two of these, a poor clinical outcome (B or C) was obtained. In all, 16 patients had a satisfactory result (group A), six were able to walk but with severe pain (group B) and one, a previously mobile 95-year-old woman, died one year after the injury having never walked again.

DISCUSSION

It is surprising, given the extensive interest in fractures of the femoral neck in the elderly, that little has been published about acetabular fractures in this age group. Letournel and Judet (1981) have reviewed their results

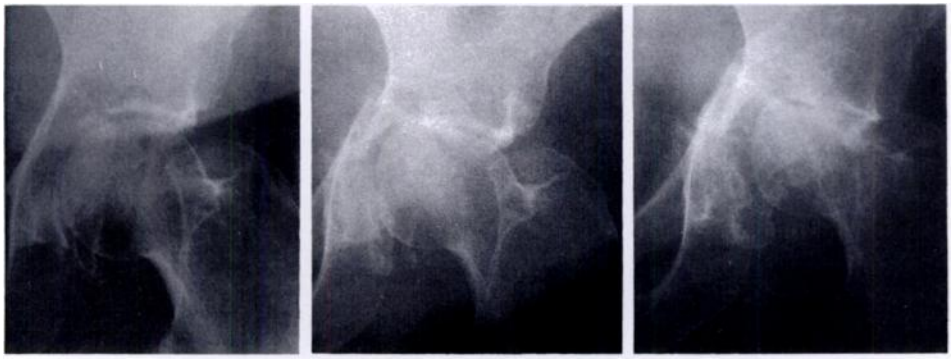

Fig. 2a Fig. 2b Fig. 2c

An acetabular fracture in a 72-year-old woman which was initially undetected (a). At 3 weeks (b) there was obvious displacement, leading to secondary degenerative changes at 9 months (c).

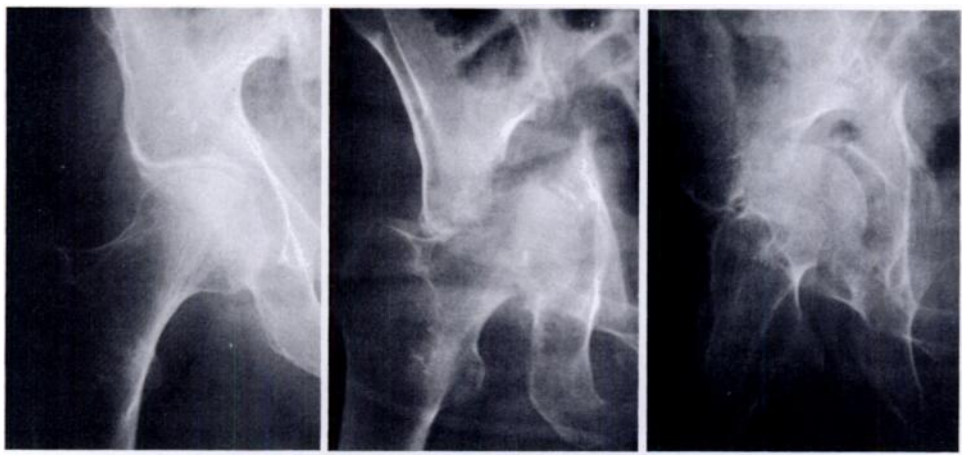

Fig. 3a Fig. 3b Fig. 3c

An initially undetected acetabular fracture (a) in a 95-year-old woman showing severe displacement at 3 weeks (b), and a poor final result (c).

with internal fixation, but such methods would not be prudent in every centre or in every case.

Acetabular fractures in the elderly differ from those in younger patients: they often appear as cracks in osteoporotic bone caused by minimal trauma, but may subsequently displace. Fractures of this type may be expected to unite at six weeks and consolidate at 12 weeks, and this should be remembered when deciding periods of traction and restriction of weight-bearing. Shorter periods of traction may be feasible, but careful review of the injuries is required to determine this.

Of the 23 survivors reviewed, seven (30%) had an unacceptable functional result. Factors which carried a poor prognosis and their frequency, were: displaced posterior column fractures (1), osteoporosis (14), femoral head fracture (3), delayed diagnosis (3), inadequate radiographs (19), inappropriate traction (3), and early weight-bearing (9). Traction had been removed earlier than six weeks in nine patients, and two of these had a poor result. They might have fared better if traction had been continued until union was secure. Despite the known disadvantages of prolonged recumbency, no patient in this series died or had a serious complication as a result of confinement to bed for an adequate period.

Internal fixation of acetabular fractures requires considerable expertise, and should probably be reserved for younger patients. However, it should be considered in the older age group when there is little possibility that a satisfactory result can be obtained by other means, and the patient's general condition is good. For satisfactory conservative management, vigilant attention to detail by both medical and nursing staff is essential.

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