Case Report

Ipsilateral Acetabular and Femoral Neck and Shaft Fractures

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Received 6 February 2015; Accepted 4 June 2015

Academic Editor: Nikolaos K. Kanakaris

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Floating hip injuries and ipsilateral femoral neck and shaft fractures are rare. Additionally, the simultaneous occurrence of these injuries is extremely rare, and only one case report of the simultaneous occurrence of these injuries has been published. Here, we report the case of a patient with ipsilateral acetabular and femoral neck and shaft fractures following a suicide attempt. The patient experienced nonunion of the femoral neck and shaft after the initial operation and therefore underwent reconstruction using a femoral head prosthesis with a long stem and interlocking screws. Our procedure may be used in primary and/or secondary reconstruction for ipsilateral acetabular and femoral neck and shaft fractures.

1. Introduction

Floating hip injury and ipsilateral femoral neck and shaft fractures are rare and result from high-energy trauma, especially multiple trauma [1–7]. Additionally, the simultaneous occurrence of these injuries is extremely rare, and only one case report of the simultaneous occurrence of these injuries has been published [8].

Here, we report the case of a patient with ipsilateral acetabular and femoral neck and shaft fractures following a suicide attempt.

2. Case Presentation

A 38-year-old woman, who had been treated for mental development delay and schizophrenia, was admitted to the intensive care unit of the Department of Traumatology and Critical Care Medicine after a fall during a suicide attempt 30 minutes previously.

She was alert on arrival and her extremities did not have any neurovascular deficits. On physical examination, she was unable to move her right arm and leg, and an approximately 3 cm open wound was noted in the anterolateral thigh region.

Radiographs showed fractured femoral neck and shaft, an acetabular fracture (Figures 1(a) and 1(b)), and a humeral shaft fracture on the right side. Whole body computed tomography showed right pulmonary contusion, liver contusion, and type B3 acetabular fracture, according to the AO classification system (Figure 2). Additionally, her injury severity score was 29.

She was transferred to the operating room 5 hours after the fall. First, she underwent antegrade intramedullary nailing for the right humerus fracture and retrograde intramedullary nailing for the right femoral shaft fracture simultaneously. Then, she was placed on a traction table and underwent multiple screw fixation with cannulated cancellous screws for the right femoral neck fracture (Figure 3). The operating time was 5 hours, and the intraoperative blood loss was 500 mL.

Postoperatively, her condition stabilized and she recovered. Seven days after the initial operation, a second operation was performed for the acetabular fracture. First, the transverse fracture was exposed using the modified Stoppa approach and was anatomically reduced and fixed using a reconstruction plate. Then, using the Kocher-Langenbeck approach, posterior wall fixation was performed with a reconstruction plate (Figure 4). The operating time was 5.5 hours and the intraoperative blood loss was 540 mL.

The early postoperative course was uneventful. Eight weeks after the second operation, partial weight-bearing was
Figure 1: Initial radiographs of the fracture sites. (a) An anteroposterior pelvic radiograph showing an AO type B3 fracture of the right acetabulum and AO type C3 fracture of the right femoral neck. (b) An anteroposterior radiograph showing an AO type A3 fracture of the right femoral shaft with a Gustilo type 2 open wound.

Figure 2: Three-dimensional computed tomography images showing a transverse fracture and posterior wall fracture of the right acetabulum.

allowed. After partial weight-bearing, she complained of right hip and thigh pain. The pain gradually increased, and she was unable to undergo gait training. Radiographs showed hypotrophic nonunion of the right femoral shaft and screw loosening of the right femoral neck (Figure 5(a)). Considering that she had a mental disorder, femoral reconstruction was performed at 15 weeks after the fall.

For femoral reconstruction, we chose a bipolar head prosthesis with a long stem and interlocking screws. First, all implants were removed, and then the long stem prosthesis was inserted, the femoral shaft was dynamized using a large femoral destructor, and locking screws were inserted at the proximal and distal femur.

Postoperatively, she did not complain about right hip and thigh pain and began walking with crutches without weight-bearing on the right leg. Weight-bearing was avoided on the right leg for 4 weeks, and then gradual progression to full weight-bearing was noted at 8 weeks after femoral reconstruction.

One year after reconstruction, she did not experience any restriction in activities and was very satisfied with the outcome. Additionally, radiographs demonstrated good callus formation in the pelvis and femur, and no loosening of the prosthesis was noted (Figure 6).

3. Discussion

Here, we reported the case of a patient with ipsilateral acetabular and femoral neck and shaft fractures following a suicide attempt. The patient was successfully treated with reconstruction using a femoral head prosthesis with a long stem and interlocking screws after nonunion of the femoral neck and shaft following two operations.

Floating hip injury and ipsilateral femoral neck and shaft fractures are rare and result from high-energy trauma, especially multiple trauma [1–7]. Additionally, the simultaneous occurrence of these injuries is extremely rare, and only one
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Figure 5: Radiographs of the right femur after the first two operations and after arthroplasty. (a) At 15 weeks after the first two operations, the screws at the femoral neck are loose with nonunion of the femoral neck and shaft. (b) A radiograph showing that arthroplasty was successfully performed.

Figure 6: Anteroposterior radiographs of the pelvis (a) and femur (b) 1 year after arthroplasty.

Conflict of Interests

The authors declare that there is no conflict of interests regarding the publication of this paper.

References


