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RESEARCH ARTICLE

CASE OF IPSILATERAL FLOATING HIP AND FLOATING KNEE— A RARE INJURY

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Abstract

The fracture of ipsilateral hip, femur and tibia is a very rare injury. This type of uncommon fractures results from high energy trauma with composite mechanism of injury. This report describes a rare case of ipsilateral fracture of acetabulum, neck of femur, shaft of femur compd. type I and shaft of tibia compd. type I in a young man who suffered a motor bike injury.

INTRODUCTION

Combined injuries to pelvis, thigh and leg are almost indicative of high energy trauma and are associated with life-threatening condition which needs immediate orthopaedic management. This report describe the patient who sustained fracture of the acetabulum, neck of Femur, shaft of femur & tibial shaft which is a very rare and severe injury. The purpose of this report was to analyze the pattern of injuries encountered and relevant treatment options which are required to improve the prognosis of such a polytrauma patient.

Case report

A 22 years old male injured his pelvis and right lower limb when he encountered a road traffic accident while he was on his bike. The mechanism of injury was that his bike hit directly by SUV leading to unbalancing of bike. This bike then stroked the divider and fell down directly on his right leg. The patient become unconscious after telephoned his parents. The patient was received in our causality department after 12 hours of injury. The patient was unconscious and haemodynamically unstable with pulse of 140/min and BP of 80/50 mmHg. The patient was resuscitated according to ALTS protocol. The attitude of limb at the time of presentation was extended, externally rotated and abducted. Distal neurovascular status of the limb checked and was intact. The affected extremity was immobilized with the splint. After resuscitation of patient, secondary survey was performed. Two punctured wounds were presents over anterior aspect of thigh (middle 1/3rd) and second over proximal 1/3rd of leg (medial aspect). After through wash and debriment, patient was sent for radiographs.

Radiographs showed fracture of ipsilateral floor and anterior wall of acetabulum along with fracture neck of femur (Gardens type III) and Shaft of Femur (middle 1/3rd), Tibia shaft(middle 1/3rd). NCCT pelvis was done and it confirmed our findings. Patient was subsequently planned for two staged procedure with cannulated cancellous screws for # neck of femur and retrograde nailing of # femur and antigrade intramedullary nailing for fracture tibial shaft through the same incision. In the second stage, fracture of the acetabulum to be fixed with the reconstruction plate. But unfortunately, we loss the patient to follow up.

DISCUSSION

Multiple fracture of single extremity are usually result of high velocity trauma. There are only four reported cases of this type of injury. The mechanism of injury in these cases is usually very complex and difficult to understand. In this case, the bumper of the car directly strikes the right lower limb which leads to unbalancing of the motorbike. The bikes then strikes the divider and it falls on the right lower extremity which probably injured the acetabulum, femoral neck and shaft. The complexity of the trauma is difficult to understand but possibly this could have happened. The management of this patient which we had planned included two stage procedures. In first stage, closed locked intra-medullary nailing will be performed through mid patellar incision and through the same incision retrograde closed locked intra-medullary nailing for fracture of femoral shaft will be performed. Fracture neck of femur will then be fixed with closed reduction and internal fixation with 6.5 mm cannulated cancellous screws. The fracture of acetabulum was fixed in second stage with reconstruction plate.

Liebergall et al. reported 17 patients with ipsilateral acetabular and femoral fractures [9]. They concluded that operative stabilization of the femur and acetabulum gave the best clinical results, while non-operative treatment of acetabulum fractures had to be the treatment of choice in undisplaced or minimally displaced fractures. Many studies are there in literature regarding floating knee injuries. Letts et al. described five patterns of ipsilateral tibial and femoral fractures and made treatment recommendations on the basis of these patterns. Because of high prevalence of complications after closed treatment, operative stabilization of both fractures is recommended even for young children. Veith R G et al treated fifty-seven consecutive ipsilateral fractures of the femur and tibia in fifty-four adults. Twenty-one patients had concomitant life-threatening injuries, and in thirty-three extremities the fractures were open. Local complications included below-the-knee amputation, three deep infections, and four ununited fractures. Mortality rates from floating knees range from 5% to 15% and amputations are reported in approximately 25% of patients.

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Fig. 1 shows radiograph of pelvis with both hips having fracture of the acetabulum and neck of the femur



Fig. 2 shows the AP and Lateral view of the femur



Fig.3 shows AP and Lateral view of the tibia with fracture at middle shaft of tibia

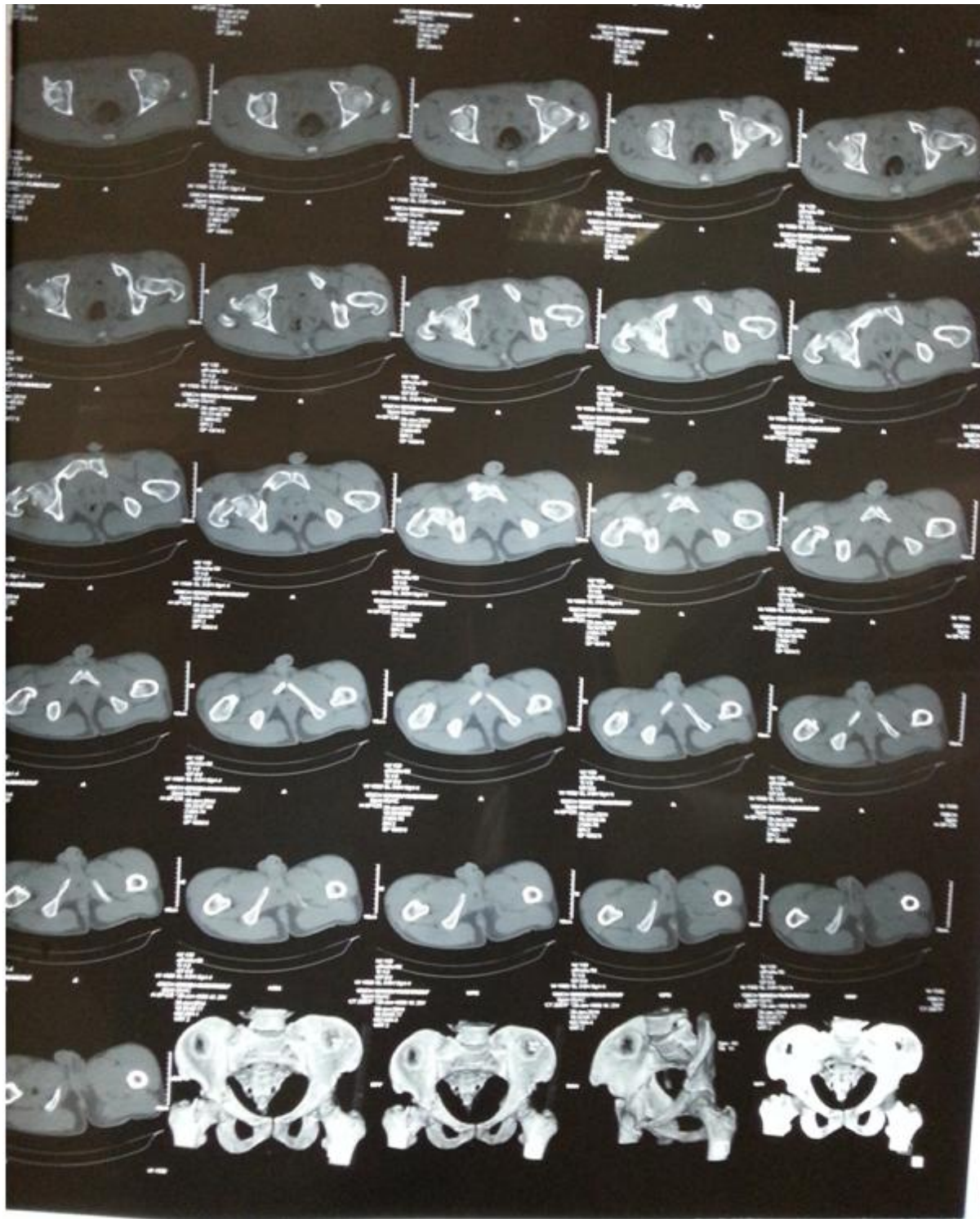


Fig. 4 shows NCCT of the pelvis with the fracture of right acetabulum