

A case of bilateral simultaneous traumatic intertrochanteric fracture in a young patient due to dashboard injury

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Citation

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Abstract

In orthopedic traumatology, a unilateral intertrochanteric fracture is probably one of the commonest fractures in the elderly. The incidence of bilateral pathological intertrochanteric fracture is also not uncommon. In this case report, we are presenting a case of bilateral simultaneous traumatic displaced intertrochanteric fractures in a young patient. The patient had met with a road traffic accident and sustained injuries to both hips. Surprisingly the patient didn't have any other injuries. His both hips were operated by a staged procedure providing a good functional outcome.

INTRODUCTION

In orthopedic traumatology, a unilateral intertrochanteric fracture is probably one of the commonest fractures in the elderly. The incidence of bilateral pathological intertrochanteric fracture is also not uncommon. In this case report, we are presenting a case of bilateral simultaneous traumatic displaced intertrochanteric fractures in a young patient. The patient had met with a road traffic accident and sustained injuries to both hips. Surprisingly the patient didn't have any other injuries. His both hips were operated by a staged procedure providing a good functional outcome.

HISTORY

The patient (Male, 40 years) presented to us in the trauma center with history of a road traffic accident on the previous day (Patient was sitting in the front seat of a jeep when it collided with the tree at a significant speed. Patient's lower body was crushed between the seat and dashboard). He presented to us in the casualty with complains of pain and swelling of both hips and inability to move both hips. There were no complaints of any other injuries.

On examination: Patient's vital signs were stable. Local tenderness and swelling was present over both the trochanters. External rotation attitude of both the lower limbs present. Local contusion marks were noted.

Figure 1

Figure 1-2: Clinical photographs of the patient with bilateral skeletal traction.



Bilateral proximal tibial Steinmann pins passed in the emergency department. Traction was applied over a bohrer's splint.

Investigations: Plain digital radiographs revealed bilateral displaced intertrochanteric fractures. Routine blood investigation was normal.

Figure 2

Figure 3: Preoperative radiograph of the patient.



Figure 3

Figure 3-4: Post operative radiograph of the patient showing DCS (right) and DHS (left) Fixation.



Surgery: Staged closed reduction and internal fixation was done. Left side was operated first .Dynamic hip screw fixation done (21/07/08). After one week, opposite side (right) operated in the form of Dynamic condylar screw (28/07/08). Postoperative course was uneventful. Total 4 units of blood transfused during the perioperative period.

DISCUSSION

Simultaneous bilateral intertrochanteric fractures are very rare, in contrast with the number of patients treated for unilateral fractures, and pose completely different problems from the unilateral ones, especially with respect to mechanism, severity and management. In contrast to unilateral fractures, which are usually caused by relative minor forces, bilateral trochanteric fractures are always the

result of a violent injury and the combination of strong forces, including rotation acting on both legs simultaneously or consecutively. Our patient was vehicle occupant (sitting in front seat) and he had his lower limbs trapped in the front part of the vehicle (Dashboard) while his trunk was thrown backward and forced to twist around the immobilized thighs. The presence these injuries indicate that a high energy transfer occurred at the time of the impact. Our assumption that bilateral simultaneous trochanteric fractures pose a threat to life is based on the fact that our patient required at least fluid resuscitation, a large amount of blood transfusion and close preoperative and postoperative monitoring. Questions may arise about the ideal timing for the surgical procedure. Fractures fixation should be undertaken as soon as the general condition of the patient is stable, preferably in the first 24 hours. Early surgery decreases the incidence of respiratory distress syndrome, the possibility of fat embolism and also may reduce the incidence of complications related to the fracture and to the prolonged time of hospitalization. Most of the surgeons are in favor of the one-stage surgical procedure provided that the general condition of the patient allows it and preferable under general anesthesia which offering adequate operating time and improving the already impaired oxygenation of the patient. Three to four units of blood must be available for the surgical procedure. Considering the technical aspects of the osteosynthesis of these fractures, in our department, we staged the procedure one week apart. We routinely use the sliding-screw plating systems for intertrochanteric fractures. However in this particular case we used the Dynamic condylar screw on one side considering the fracture pattern.

According to Nieto-Andueza, Department of Orthopedics, School of Medicine, and Los Andes University.Merida. Venezuela, simultaneous and bilateral fractures of the proximal femur are extremely rare events. Twenty-eight cases were reported between 1938 and 1956. Convulsions due to shock therapy or pharmacological convulsive therapy were responsible for all fractures. Again, seizures were responsible for 3 cases and the remaining cases had “spontaneous fractures” with underlying systemic illness or local pathology. The available literature describes only two cases of bilateral intertrochanteric fractures.

Kuen Tak Suh et al, Department of Orthopedic Surgery, Pusan National University Hospital, Republic of Korea has reported a case of a 28-year-old man presenting with bilateral femoral neck fractures due to generalized

convulsions was diagnosed with chronic renal failure and treated with percutaneous screw osteosynthesis and hemodialysis. During rehabilitation, the patient again had convulsions resulting in bilateral femoral intertrochanteric fractures 2 months after the operation. He was treated with a compression hip screw on the right side and conservatively on the left side. This is the first well-documented report on bilateral femoral neck fractures followed by bilateral femoral intertrochanteric fractures.

Ömer Akçalı¹ et al, Department of Orthopedics, Dokuz Eylül University, School of Medicine, Izmir, Turkey has reported a spontaneous intertrochanteric fracture with bilateral avulsion of the greater trochanter in a patient with chronic renal failure.

According to A. Panagopoulos ET al, Orthopedics department of Patras University, simultaneous bilateral trochanteric fractures are rare and potentially life-threatening injuries, associated with high morbidity. Early one-stage internal fixation, preferably with intramedullary nailing and closed monitoring of the patient are the major determinants for a good final outcome.

We conclude that staged closed or open reduction and internal fixation of bilateral simultaneous intertrochanteric fractures or early one-stage internal fixation, preferably with closed intramedullary nailing or with conventional sliding implants and closed monitoring of the patient are the major determinants for a good final outcome in such cases.

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