CASE REPORT

Posterior bilateral hip dislocation with ipsilateral acetabular fracture

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Introduction

Traumatic dislocation of the hip is quite rare and accounts for 2–5% of all dislocation. Simultaneous bilateral traumatic dislocation is a very rare injury and is also less frequently associated with fracture of the hip joint.¹,² In the literature there are few documented cases.³

We report a case of a bilateral posterior hip dislocation associated with acetabular fracture.

Case report

A 33-year-old woman was involved in a traffic accident (car hit pedestrian). She was a paramedic and she was assisting an injured biker. She was hit by the ambulance which was hit by a car driven by a drunk driver. The ambulance hit her directly to the pelvis with both hips in slight flexion and partially overflowed her. She immediately developed severe pain and functional inability. She was immediately moved to our Trauma Centre.

Physical examination in E.R. revealed that both hips were in about 80° of flexion, left hip was completely external rotated and abducted, and right hip was partially internal rotated. There were also numerous first- and second-degree burns at both gluteal region, posterior surface of left thigh and lumbar region.

The trauma series X-ray revealed a bilateral posterior hip dislocation (iliac at right hip and ischial at left hip) with probable fracture of the posterior wall of left acetabulum (Fig. 1) and signs of cervical sprain. There were no associated fractures to upper or lower limbs and head trauma or visceral trauma; ISS was <18.

Approximately, 1 h after the injury, closed reduction of both hips was performed without particular difficulty in shock room under anaesthetic. Post-reduction X-ray showed perfect reduction of the dislocation (Fig. 2). A CT with 3D reconstruction of the pelvis was then performed, which confirmed the fracture of the posterior wall of left acetabulum (Fig. 3).

ORIF of the acetabulum was performed 13 days after trauma to allow plastic surgeons to treat the burns which involved also the site of surgical approach.

We used a reconstruction plate 3.5 mm and we gained an anatomical reconstruction of the articular surface by a minimally invasive posterior (Kocher-Langenbeck) approach that permitted us to treat the fracture without damaging of gluteal muscles and burned skin. We performed a small surgical incision (13 cm) and we retracted gluteal muscles without detaching them and protecting sciatic nerve (Figs. 4–6).

It was not necessary to apply a skeletal traction.

Passive and active movements of both hips and knees began 2 days after the surgery.

Four weeks after surgery, patient was allowed to walk with crutches, bearing full weight on right leg and no weight-bear on left leg. Four weeks later, she was allowed partial weight-bearing on left side and full weight-bearing was allowed after 3 more weeks.

Nineteen months after the accident, the patient does not complain of hip pain, both hips have full range-of-motion.

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there is no clinical or radiological sign of avascular necrosis in either hip and she is back to work.

All skin burns healed without plastic surgery procedures and there were no sequelae.

Discussion

Bilateral dislocation of the hip is a rare condition that always occurs as a result of a high-energy trauma and is associated
with a 4% mortality rate.\textsuperscript{8} This condition is also associated to a high long-term complication rate; there is 24% incidence of traumatic arthritis, 7—9% incidence of sciatic nerve damage and 26% incidence of avascular necrosis.\textsuperscript{1,3,7} For all these reasons, bilateral hip dislocation, mostly if associated to a pelvic fracture, is considered a true emergency.\textsuperscript{8}

It is important to examine a patient for sciatic nerve palsy before reducing a dislocation. In the presence of such a condition the patient has to be followed up with periodic EMG study at 1 and 5 months to determine the severity of the injury and eventual surgical treatment.\textsuperscript{3}

The incidence of avascular necrosis is directly related to the time the hip remains dislocated and is significantly reduced if reduction is done within 6 h.\textsuperscript{5,7} Post-traumatic hip arthritis is the inevitable sequel to avascular necrosis and non-anatomical reduction of fracture.\textsuperscript{4}

The relation between the incidence of avascular necrosis and the time of initiation of weight-bearing is still controversial.\textsuperscript{1,4}

Contemporaneous presence of bilateral dislocation and acetabular fracture increases risk of traumatic arthritis and is mandatory to achieve an anatomical reduction of the fracture.

In event of associated skin or soft tissue, lesion is extremely important to choose a small and less traumatic posterior approach, without detached or cut muscular structures.

References