

Management of neglected traumatic posterior dislocations of the hip in developing countries

M Tepper MD

Medical Officer

Sumve Designated District Hospital

Mantare, Mwanza, Tanzania

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Within a period of six months, three men were admitted following falls which had occurred more than one week previously. They had all sustained minor trauma but directly after the injury they were unable to bear weight on the affected limb. All three had Grade 1 posterior dislocations of the hip.

Although the dislocation had occurred more than one week previously, closed reduction under spinal anaesthesia was successful in each case. After reduction, the patients were put on traction for two weeks and then continued with partial weight-bearing for four weeks. Immediately after reduction physiotherapy was started. Following treatment, all three patients walked without complaint.

We concluded that a neglected posterior dislocation of the hip can be treated in a rural district hospital, with a trial of closed reduction under spinal anaesthesia. Successful reduction is essential to prevent further severe disability, after which further management can be discussed.

Introduction

Traumatic dislocation of the hip is a serious injury often seen after road traffic accidents in developing countries. Reduction should be done quickly, if possible within six hours of injury, to reduce the incidence of avascular necrosis of the femoral head^{1,2,3,4}.

During a six-month period, we received three patients with pain in the groin who were unable to walk following apparently minor trauma. As is usual in the tropics, these patients had not come to the hospital directly after the injury but had all visited a traditional healer first. There was also some delay at the hospital due to a lack of knowledge concerning the injury among the Medical Assistants.

The final diagnosis of posterior dislocation of the hip was made after examination under short-duration ketamine anaesthesia. The affected hip was found to be in flexion, adduction and internal rotation. The hip could not be rotated and there were no crepitations heard.

A radiograph of the pelvis was not made before reduction was attempted because the hospital Radiology Department is only open three times a week. Radiographs taken after reduction did not show any fracture of the acetabulum. All patients were diagnosed as having a Grade 1 posterior dislocation (Steward and Milford⁵).

If reduction had not been successful, the patient would have been referred to the regional hospital for an open reduction. Most patients in rural areas cannot afford to travel to a referral hospital due to lack of money for transport and treatment. This would mean permanent disability if attempted closed reduction fails.

Case reports

1. A 30-year-old Msukuma farmer fell down whilst playing football nine days prior to hospital admission. Directly after the injury he was unable to walk.

On examination, the patient's right leg was in a flexion, adduction and internal rotation. An attempt to reduce the dislocation under anaesthesia with ketamine failed. After two days further delay, a radiograph confirmed a Grade 1 posterior dislocation of the right hip. On the fifth day from admission, (14 days since the trauma) reduction of the hip was finally achieved by a very difficult manipulation under spinal anaesthesia. The manipulation was performed with the patient in the abdominal position, the affected limb at 90 degrees flexion of the hip and 90 degrees flexion of the knee⁶.

After reduction, the leg was placed on skeletal (proximal tibial) traction for four weeks; for two weeks with a weight of 6kg and a further two weeks with a weight of 3kg. He was then allowed up, partial weight bearing for four weeks.

Immediately after the reduction physiotherapy started. On follow-up four weeks after discharge from hospital, the patient had no complaint.

2. A-27-year old Msukuma farmer had fallen from a one metre high wall nine days previously. He was unable to walk on his right leg.

On examination the right hip was in a fixed position of 60 degrees flexion, 10 degrees internal rotation and slight adduction. Further examination was impossible due to severe pain. An examination under ketamine anaesthesia indicated a posterior dislocation of the hip. An attempt to reduce the dislocation was unsuccessful.

When the patient was fully awake a very easy reduction was achieved under spinal anaesthesia with the patient supine on the ground with 90 degrees flexion of both hip and knee⁶.

Further management was skin traction to the leg for two weeks, followed by partial weight bearing for four weeks. Physiotherapy was started immediately after the reduction. No radiographs were made.

When reviewed after a further four weeks, the patient was walking normally and did not have any complaints.

3. A 25-year-old Msukuma farmer had fallen from his bicycle one week previously. He was unable to walk and he complained of pain in the right groin. On examination, the right hip was kept in a fixed

position of 80 degrees flexion and slight internal rotation and adduction. The patient was admitted with the clinical diagnosis of a posterior dislocation of the hip. A radiograph was ordered, but had still not been done three days later because there was no diesel for the generator and therefore no power.

We decided to examine the patient under spinal anaesthesia. This confirmed the diagnosis and at the same session the dislocated hip was reduced with the patient lying supine. A subsequent radiograph did not show a fracture of the acetabulum.

Skeletal traction was applied to the leg for four weeks (two weeks at 7kg and two weeks at 3.5kg), followed by partial weight bearing for two weeks only. On discharge the patient was walking with the use of one crutch on the left side. He did not come for follow-up.

Discussion

Although a dislocation of the hip is relatively uncommon, we saw three men with neglected dislocation of the hip⁷ within six months. In developed countries, dislocation of the hip is most frequently seen after a high speed traffic accident^{1,2,3}. In contrast, our patients developed a posterior dislocation of the hip after rather minor trauma. The reason for this is unclear. May be there is a tribal predisposing factor in the sense of a diminished anteversion angle.

The final diagnosis was made under ketamine anaesthesia due to the limited facilities in the hospital. Ketamine is a good anaesthetic for local examination to differentiate between a fracture neck of femur and a dislocation of the hip but for the reduction, especially for a neglected dislocation of the hip, total muscle relaxation is needed. In tropical countries, spinal anaesthesia is the anaesthetic of choice for reduction of a dislocated hip⁶. Pai⁷ recommended reduction under anaesthesia for patients where a dislocation had occurred three days to three weeks previously. For patients where the dislocation has been present for between three weeks and one year, he recommends closed heavy traction in abduction or open reduction.

Reduction should be attempted first with the patient in the supine position which, if not successful should be further attempted using the alternative method in the prone (abdominal) position⁶. In neglected

posterior dislocation of the hip, it is doubtful if the method of Lefkowitz⁹ would be successful because a heavy force is needed to achieve reduction.

There is no consensus regarding management following reduction and the advice found in the literature all concerns patients in whom reduction was achieved within 12 hours of trauma. Campbell⁵ advises traction or a cast for two weeks if the hip is stable after reduction. Bailey¹⁰ advises skin traction for a period of three to six weeks followed by partial weight-bearing. Non-weight-bearing is not indicated. McRae¹¹ recommends four weeks skin traction to be followed by non-weight-bearing for two weeks. After a few days bed rest Dreinhofer¹ started partial weight-bearing for two to three weeks. There is no indication for skeletal traction. Schlickewei² compared a group of patients treated with two weeks skeletal traction, three months non-weight-bearing and one month partial weight-bearing with a group who received six weeks partial weight-bearing as soon as the hip was pain free. In the two groups no difference was seen in the incidence of late complications.

Following our experience with the three patients described and the literature reviewed we have developed a protocol concerning neglected posterior dislocation of the hip (dislocation present for three days to three weeks) with a post-reduction treatment of skeletal traction for two weeks followed by four weeks partial weight-bearing. Physiotherapy is started the day after reduction is achieved.

Awareness of the long-term complications is limited

although in general these complications are less frequent after closed reduction than after open reduction⁵.

Conclusion

In a rural district hospital, reduction of a neglected dislocation of the hip can be successful under spinal anaesthesia. If reduction is unsuccessful the patient should be referred to a referral hospital where an open reduction can be done. A trial of reduction is very important because we know that most people will never reach the referral hospital due to lack of money for transport and treatment and, therefore, they will remain disabled.

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