

HEMIPELVIC DISLOCATION COMPLICATED BY DISLOCATION OF THE IPSILATERAL HIP

A Case Report

M. LEVY

Department of Orthopaedics-Traumatology, Yosephthal Medical Centre, Eilat, Israel.

The case presented involves a rare combination of severe injuries to the hemipelvis and ipsilateral hip joint. Suggestions are made with regard to treatment.

Key words: hemipelvis dislocation; hip dislocation

Accepted 10.x.75

When various injuries to the pelvis concomitantly include diastasis of the symphysis, separation of the sacro-iliac joint, and cephalad dislocation, a well-known and often-described clinical picture is obtained. However, when the findings are accompanied by ipsilateral dislocation of the hip, a rare combination of injuries ensues and is felt to warrant reporting.

CASE REPORT

The patient was a 24-year-old female medical student who was injured when the car in which she was travelling overturned. At the time, she occupied the front, right-hand (passenger's) seat, and she was not wearing a safety-belt.

Her various injuries centred on the pelvis, and X-ray examination of the region revealed a separation of the right sacro-iliac joint. The pelvis, in addition to cephalad dislocation, showed diastasis of the symphysis, and there was a posterior dislocation of the right hip.

In accordance with standard treatment practices pertaining to severe injuries involving the pelvis, the patient was taken to the operating room where full muscle relaxation was obtained

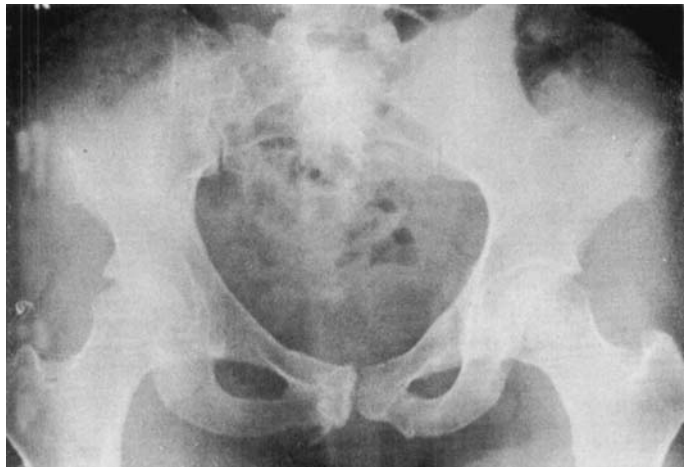
under general anaesthesia. Thereupon, repeated attempts at closed reduction of the femoral head were undertaken but proved unavailing. As a probable result of these manipulations, a large haematoma appeared in the pubic area, and both labia became increasingly oedematous. Since it was obvious that only open reduction could correct the problem, the approach of Osborne was employed to open the capsule and expose the femoral head and neck (Gibson 1950). Further attempts to replace the femoral head failed because of the profound and erratic instability of the pelvis. Finally, the gluteus minimus and medius muscles were dissected away from the greater trochanter, and then, reduction of the head of the femur was effected with comparative ease. The glutei were subsequently sutured to their insertion, and the procedure was thus completed.

On her return to the ward, the patient was placed in a dual pelvic sling, and skeletal traction was applied to the right tibia. Thereby, adequate reduction of the pelvis was obtained, and these measures were continued over an 8-week period. Thereafter, she began to ambulate, at first with the aid of crutches, and within about 4 months, she was walking freely, bearing weight on both feet. Now, some 2 years after the accident, there are no signs of avascular necrosis, the pelvis is firmly stabilized, and the patient shows no limitation of movement.



Figure 1. Total disruption of the pelvis with diastasis of the symphysis pubis, sacro-iliac separation and cephalad dislocation of the left hemipelvis, and posterior dislocation of the right hip.

Figure 2. Status post-reduction of the hip and reduction of the pelvis following treatment with dual pelvic sling and skeletal traction.



DISCUSSION

Though the exact mechanisms underlying these injuries cannot be definitely explained, a re-enactment of the accident permits the following hypothesis.

During the collision, the patient's knee rammed the dashboard, and the impact resulted in a posterior dislocation of the right hip. Following the collision, the car overturned and the patient, in being thrown clear, suffered a right hemipelvic dislocation in the fall.

Holm (1973), in his paper on the treatment of pelvic fractures and dislocations, describes 59 cases, among whom only 16 (27 per cent) had unstable fracture-dis-

locations of the pelvic ring. Of these, only one case showed sacro-iliac diastasis, fracture of the superior and inferior pubic rami, fracture of the acetabulum, and dislocation of the left hip joint. However, he does not indicate the nature of the dislocation nor does he detail the method of treatment.

Dunn & Morris (1968) describe 149 patients with pelvic injuries, of whom 34 had unstable fractures of the pelvic ring. Two of these suffered total disruption, but none of these patients sustained a dislocation of the hip joint in addition to the pelvic injury.

Both Holm and Dunn & Morris describe a large number of complications arising from severe pelvic injuries including lacerations or contusions of the urinary bladder, damage to the urethra and to the sciatic nerve, perianal laceration, and ruptured testes, these occurring in a majority of their patients.

In our patient, there were a large number of erythrocytes in the urine during the first 2 days of her hospitalization, but she developed no signs of significant injury to the urethra or to the urinary bladder.

The oedema and the haematomata of both labia were caused by the repeated attempts at reduction of the femoral head in the face of the erratic movement of the hemipelvis. There was no injury to the sciatic nerve.

In view of our experience in this instance, we recommend (1) that attempts at closed reduction of the femoral head in such cases be avoided, and that open reduction be considered the method of choice from the outset. (2) When (due to pelvic instability) difficulties in open reduction are encountered, the gluteus medius and minimus muscles can be dissected from the greater trochanter and then re-sutured to their insertion follow-

ing reduction of the femoral head. Alternate procedures avoiding transection of the glutei, as preferred by Campbell, might employ, for example, Ollier's lateral U-approach to osteotomy of the greater trochanter (Ollier 1963); fixation of the osteotomized greater trochanter could then utilize Hoffman's osteotaxic apparatus (Hoffmann 1961) or Müller's techniques following the insertion of Kirschner wires (Müller et al. 1970). An acquaintance with these various techniques, their advantages and limitations, would of course govern the choice of procedures.

REFERENCES

- Dunn, A. W. & Morris, H. D. (1968) Fractures and dislocations of the pelvis. *J. Bone Jt Surg.* **50-A**, 1639.
- Gibson, A. (1950) Posterior exposure of the hip joint. *J. Bone Jt Surg.* **32-B**, 183.
- Hoffmann, R. (1961) *Osteotaxis guide technique et clinique*. Courrier de la Cote, S. A. Nyon.
- Holm, C. L. (1973) Treatment of pelvic fractures and dislocations. *Clin. Orthop.* **97**, 97.
- Müller, M. E., Allgöwer, M. & Willinger, H. (1970) *Manual of internal fixation*, pp. 35. Springer Verlag, Berlin-Heidelberg-New York.
- Ollier, P. (1963) Lateral U-approach. *Campbell's operative orthopaedics*, 4th Ed. Editor Crenshaw, A. H., pp. 97. C. V. Mosby Company, St. Louis.

Correspondence to: Dr. M. Levy, Orthopaedics-Traumatology Department, Yosephthal Medical Centre, Eilat, Israel.