BILATERAL FRACTURE-DISLOCATION OF THE SACRUM

by J. BOURY* and M. HOOGMARTENS*

The authors describe a semiconservative approach for bilateral fracture-dislocation of the sacrum, an extremely rare injury. Traction is advocated ; it seems to lead to a good functional result after 20 years. Other authors either propose internal fixation or benign neglect, also with a good outcome. Every case must be approached on an individual base.

Keywords : sacrum ; bilateral fracture-dislocation.
Mots-clés : sacrum ; luxation-fracture bilatérale.

RÉSUMÉ

J. BOURY et M. HOOGMARTENS. Fracture-luxation bilatérale du sacrum.

Les auteurs décrivent un cas de cette lésion qui est extrêmement rare. Une réduction complète fut obtenue sur table de traction E.D.F. de Cotrel. Une récidive partielle fut observée, malgré une traction céphalo-fémorale, puis axillo-fémorale, pendant 6 semaines. Le résultat, avec 20 ans de recul, fut excellent. Cependant, l'absence totale de tout traitement, comme décrit par Lafollette et ses collaborateurs, aurait pu donner un résultat comparable. L'ostéosynthèse préconisée par Marcus et Hansen, aurait été indiquée en cas de douleurs insupportables.

SAMENVATTING

J. BOURY en M. HOOGMARTENS. Bilaterale luxatiefractuur van het sacrum.

De auteurs beschrijven een geval van dit uiterst zeldzame letsel. Volledige reductie werd bekomen met een E.D.F. tractietafel volgens Cotrel. De luxatie recidiveerde gedeeltelijk, ondanks cephalo-femorale tractie, later axillofemorale tractie, gedurende 6 weken. Het uiteindelijk resultaat, 20 jaar later, bleek zeer gunstig. Toch zou een houding van "watchful neglect", zoals voorgesteld door Lafollette en medewerkers, tot een vergelijkbaar resultaat hebben kunnen leiden. Anderzijds had een osteosynthese, zoals beschreven door Marcus en Hansen, zich kunnen opdringen in geval van onuitstaanbare pijn.

INTRODUCTION

Bilateral fracture-dislocation of the sacroiliac joint is a rare entity. Classical textbooks (4, 6) do not even mention it. One can distinguish the isolated form, of which single examples were cited respectively by Marcus and Hansen (3) and by Lafollette *et al.* (2), and the complicated form, with concomitant fracture or disruption of the pelvic ring, of which two examples were described by Torok (5). Additional cases have probably never been published.
This paper reports another case of the complicated type with a 20-year followup.

CASE REPORT

On September 15, 1969, a 30-year-old policeman was injured in an explosion. Shock was treated in a local hospital. A complete bilateral fracture-dislocation of the sacrum was diagnosed (fig. 1). Furthermore a nondisplaced fracture of the right acetabulum, a diastasis of the symphysis pubis, a compound fracture of the right tibia, multiple fractures of the metatarsals and a tarsometatarsal fracture-dislocation of the right foot were noted.

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On September 18 the patient was transferred to the university hospital. No neurological deficit was identified. On September 20 complete reduction of the sacrum (fig. 2) was achieved under general anesthesia by means of a Cotrel E.D.F. traction table (1). Two oblique pelvic slings encircled the pelvis, while a head sling was fitted around the chin and the occiput. The traction was slowly increased until the traction-force indicator read 55 kg. During the same anesthesia the pelvic slings were replaced with bilateral femoral traction pins, while the other injuries were treated appropriately. The head sling was left in place, but was replaced with axillary slings after a few days, because a mandibular fracture was noted. The diastasis of the symphysis pubis was treated with a classical transverse pelvic sling ; nowadays this technique is no longer universally accepted. Moreover, in this patient correction of the diastasis of the symphysis pubis was achieved initially (fig. 2), but then was lost (fig. 3).

The traction was maintained for 6 weeks. Recovery was complicated by a pulmonary embolism. Radiographs showed partial recurrence (50%) of the dislocation (fig. 3), but because of the total absence of pain ambulation with crutches was started. A corset was prescribed to facilitate healing of the ligaments, but without the intention of preventing further redislocation. The rehabilitation was prolonged, not because of the pelvic problem but because of the lower limb injuries.

After one year of inactivity the patient resumed work as a policeman, but only indoors.

At followup 20 years later, occasional periods of "lumbar fatigue" were cited. The corset had been worn from time to time. A single epidural infiltration had been administered. Sports, except swimming, were excluded because of the lower limb injuries, Micturition had never been a problem, except in the first days after the accident. Ejaculation had never been painful. Physical examination showed a slight prominence of the sacrum. There was slight tenderness of the sacroiliac joints and of the lumbosacral area. Patrick's test and transverse compression of the pelvis were painless. The mobility of the spine and of the hips was normal ; the patient could place both hands on the floor. Neurologic symptoms were

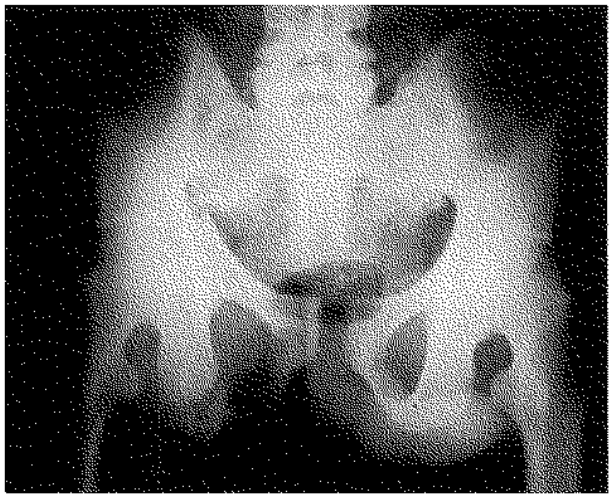

Fig. 1. — Initial radiograph : distinct downward dislocation of the sacrum.

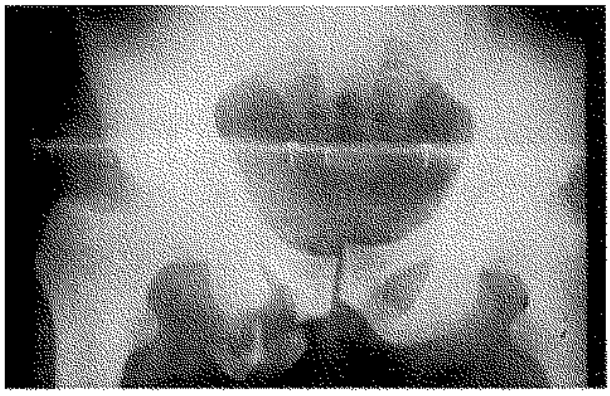

Fig. 2. — Complete reduction under general anesthesia on the Cotrel E.D.F. traction table.

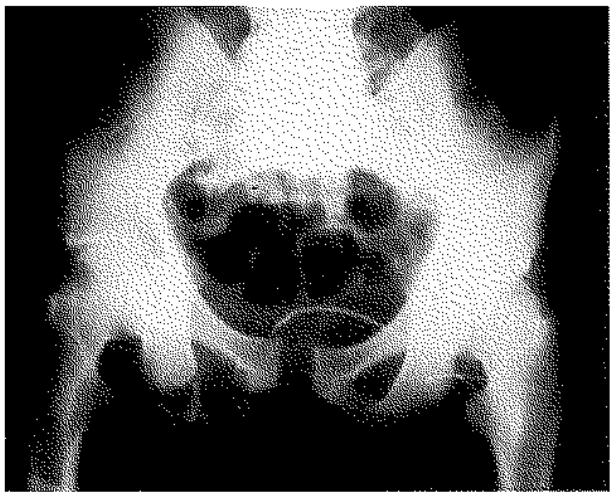

Fig. 3. — Partial recurrence (50%) after 6 weeks of traction.

absent. There was a limp because of the lower limb injuries. The patient had lost 3 centimeters in height. Radiographs showed bony fusion of both sacroiliac joints in a position of subluxation (fig. 4). The diastasis of the symphysis pubis was partially reduced. The lumbar spine was normal, except for a few osteophytes. The patient was quite satisfied.

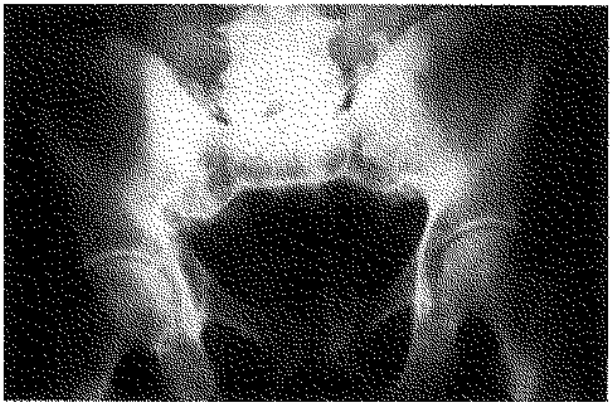

Fig. 4. — Condition unchanged, at follow-up 20 years later.

DISCUSSION AND CONCLUSION

Operative treatment was preferred by Marcus and Hansen (3), probably because their patient was in extreme pain. However, ultraconservative treatment led to an equally satisfactory result in the case described by Lafollette *et al.* (2) ; an attempt at reduction was not made.

In the present case a semiconservative attitude was adopted. It consisted of traction and resulted in partial reduction of the fracture-dislocation and good general function. External fixation would have been another semiconservative approach.
It seems that unbearable pain requires operative treatment, whereas a conservative approach should be the treatment of choice in the other cases.

REFERENCES

1. COTREL Y., MOREL G. La technique de l'E.D.F. dans la correction des scolioses. *Rev. Chir. Orthop.*, 1964, *50*, 59-75.
2. LAFOLLETTE B. F., LEVINE M. I., MCNIESH L. M. Bilateral fracture-dislocation of the sacrum. *J. Bone Joint Surg.*, 1986, *68-A*, 1099-1101.
3. MARCUS R. E., HANSEN S. T. Bilateral fracture-dislocation of the sacrum. *J. Bone Joint Surg.*, 1984, *66-A*, 1297-1299.
4. ROCKWOOD C. A., GREEN D. P *Fractures*. J. B. Lippincott, Philadelphia, 1975, 962-966.
5. TOROK G. Bilateral sacroiliac joint dislocation with intrapelvic intrusion of the intact lumbosacral spine and sacrum. *J. Trauma*, 1976, *16*, 930-934.
6. WILSON J. N. *Watson-Jones. Fractures and joint injuries.* Churchill Livingstone, London, 1976, 852-868.

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