

Department of Orthopaedic Surgery E, Municipal Hospital, University of Århus,
Århus, Denmark.

COMMINUTED INTERTROCHANTERIC FRACTURE OF THE FEMORAL NECK

VAGN KOLIND-SØRENSEN

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The incidence of complications following nailing of comminuted intertrochanteric fractures of the femoral neck was studied.

MATERIAL AND METHOD

During the period 1965-1970 a total of 71 patients with the above-mentioned type of fracture were treated, all by operation.

The fracture was reduced under fluoroscopy, as near to an anatomical position as possible, and fixed with a nail (McLaughlin 1947).

Avulsed fragments, either medial or from the trochanteric area, were not fixed.

One week after the operation the patients were allowed to sit, and in another week walking training with assistance was started. As soon as the patients could manage on their own, they were discharged and thereafter seen in the Outpatient Department every 3 or 6 months for the next 2 years.

RESULTS

There were 38 complications:

In 20 cases the osteosynthesis broke down, resulting in varus deformity. Reoperation was performed in seven.

Infection occurred in 15 cases, deep in 11 and superficial in four.

Decubitus ulcer developed in one case, thrombophelbitis in one, and there was one case of non-union.

At the end of 2 years 43 of the patients were still alive. Two were confined to bed and had to be nursed, and seven were in wheelchairs.

Three were able to walk around a bit with crutches. Thirty-one could walk, many of them using a stick out of doors.

DISCUSSION

An intertrochanteric fracture of the femoral neck may be comminuted, often with crushing or avulsion of a large posterior fragment or of the medial cortex of the neck, so that it is not possible to reconstruct a stable bony buttress (Evans 1949, Dimon & Hughston 1967).

These fractures are difficult to stabilize by osteosynthesis, and Evans (1949) suggested nailing them in the deformed position without attempting reduction, whereas Clawson (1957) and Bahr (1963) have recommended traction.

Another possibility is to nail these fractures in valgus (Riska 1971) or to perform a displacement osteotomy (Dimon & Hughston 1967, Debrunner & Cech 1969, Harrington & Johnston 1973).

CONCLUSION

The comminuted intertrochanteric fractures of the femoral neck reported here had been treated in the same way as simple fractures, i.e. with reduction, nailing, and early weightbearing.

Complications occurred in more than half the cases, most often in the form of failure of the osteosynthesis in varus deformity; next most frequently in the form of infection.

The operative method is difficult, takes a long time in the case of comminuted fractures, and does not secure stable fixation.

If operative treatment is to be used at all in these fractures, it ought to take the form of fixation of all fragments or of a displacement osteotomy.

The time of commencing weightbearing should be accurately adapted to the surgeon's impression concerning the stability of the osteosynthesis.

SUMMARY

If comminuted intertrochanteric fractures of the femoral neck are treated in the same way as the simple ones—by reduction, McLaughlin nailing, and early weightbearing—many complications will occur, in most cases failure of the osteosynthesis or infection. If operation is to be used at all in these fractures, it must take the form of a firmer fixation or primary osteotomy. Moreover, the time of commencement of weightbearing must be accurately and individually determined.

REFERENCES

- Bahr, V. (1963) Balanserat strekk vid femurfrakturer. *Nord. Med.* **69**, 536-538.
- Clawson, D. K. (1957) Intertrochanteric fractures of the hip. *Amer. J. Surg.* **93**, 580-585.
- Debrunner, A. M. & Cech, O. (1969) Biomechanik der Osteosynthese. *Z. Orthop.* **106**, 516-526.
- Dimon, J. H. & Hughston, J. C. (1967) Unstable intertrochanteric fractures of the hip. *J. Bone Jt Surg.* **49-A**, 440-450.
- Evans, E. M. (1949) The treatment of trochanteric fractures. *J. Bone Jt Surg.* **31-B**, 190-203.
- Harrington, K. D. & Johnston, J. O. (1973) The management of comminuted unstable intertrochanteric fractures. *J. Bone Jt Surg.* **55-A**, 1367-1376.
- McLaughlin, H. L. (1947) An adjustable internal fixation element for the hip. *Amer. J. Surg.* **73**, 150-161.
- Riska, E. B. (1971) Trochanteric fractures of the femur. *Acta orthop. scand.* **42**, 268-280.

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Correspondence to:

Vagn Kolind-Sørensen
18 Haslevangsvej
DK-8210 Aarhus V
Denmark