BRIEF REPORTS

THE CLOSED REDUCTION OF TROCHANTERIC FRACTURES

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Closed reduction and internal fixation of trochanteric fractures is one of the commonest procedures in orthopaedic practice. With intracapsular fractures, internal rotation is the position of choice but in the trochanteric region this may cause malunion and impair walking. Evans (1951) suggested that some comminuted trochanteric fractures were best reduced by external rotation and Horn and Wang (1964) noted that the short external rotators were attached to the proximal fragment of such fractures. May and Chacha (1968) noted that some trochanteric fractures (type I, Figure 1) were best reduced in neutral rotation, while others (type II) were better with external rotation. They suggested that the soft tissue attachments connecting the proximal fragment to the shaft had been disrupted in type II fractures. If the fracture type could be identified from plain radiographs, their closed reduction might be made easier.

We therefore screened 154 consecutive trochanteric fractures in internal, neutral and external rotation. Previous studies, had shown that abduction and adduction had not influenced fracture reduction; these positions were not assessed. According to Evans' classification, 62% were two or three part fractures and 38% four part. Open reduction proved necessary in four cases.

Results (Table I). Neutral rotation gave the best reduction most often. Internal rotation was almost equally valuable in two and three part fractures. External rotation was significantly more useful in four part fractures yet was the position of choice to only 25%.

Discussion. Plain radiographs define fracture lines and the position of bone fragments but do not indicate the posterior soft tissue attachments that determine how the fragments rotate. If the proximal fragments are linked by soft tissues to the femoral shaft, internal rotation may reduce the fracture; if not, the shaft should be externally rotated to align with the proximal component. In two and three part fractures, successful closed reduction is most likely to be in neutral or internal rotation. In comminuted four part fractures, screening in both directions is indicated.

No benefits in any form have been received or will be received from a commercial party related directly or indirectly to the subject of this article.

REFERENCES

