

Operative Treatment for Fracture of the Proximal Humerus -Comparison between Surgical Groups-

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Aim:

The purpose of this study was to investigate the results of surgical treatment of displaced fractures of the proximal humerus and the difference of outcome according to surgical methods.

Method:

Thirty-eight displaced fractures of the proximal humerus(10 two-part and 28 three-part fractures) with follow-up over 12 months were divided into three groups: double tension band wiring(Group I, 19), plate fixation(Group II, 10) and closed reduction plus internal or external fixation(Group III, 9). Clinical data were reviewed, the patients were re-examined for measurement of motion, self-assessed function score and pain index were obtained.

Results:

Anatomical results were best in group II. Average percentage of function score were 80.12.3 of the normal side in group I, 70.16.1 in group II and 55.7.8 in group III. Mean passive forward elevation was 146.20 in group I, 140.21 in group II and 121.20 in group III. Pain index was worst in group III. Surgical complications affecting the result were noted in 14 cases(38%), which was least frequent in group I. The causes of unsatisfactory results was excessive soft tissue dissection or mal-reduction. Double tension band wiring enabled secure fixation with minimal soft tissue dissection and had the theoretical advantage of fixation on tension side. The only drawback was inevitable biceps tenodesis by the crossed wires.

Conclusion:

It is construed that double tension band wiring in displaced fractures of the proximal humerus provides sufficient fixation for early rehabilitation and union, while minimizing surgical complications.