

Medial Open Wedge High Tibial Osteotomy for Complex Varus Malunited Tibial Plateau Fractures - A Prospective Case Series

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Summary:

Medial open wedge high Tibial osteotomy for varus malunited Tibial plateau fractures gives good functional and radiological outcomes

Abstract:

BACKGROUND

Varus malunited tibial plateau fractures are not uncommon can cause severe varus thrust, instability and early onset osteoarthritis. Purpose of this study is to analyse radiological and functional outcomes of varus malunited tibial plateau fractures managed with medial open wedge high tibial osteotomy(MOWHTO).

MATERIALS AND METHODS

The study conducted from July 2009 to October 2013, eighteen Patients with varus malunited tibial plateau fractures were included. Procedure involved diagnostic arthroscopy followed by MOWHTO. In Eleven patient's (61%) osteotomy was stabilised with medial locking plate, tricortical iliac crest graft and in seven patients (39%) stabilisation done with PUDDU plate, allograft. During follow up patients were evaluated radiologically for union, Medial proximal tibial angle (MPTA) and tibial slope angle and functional assessment done with knee outcome survey based on activities of daily living.

RESULTS

Mean follow up duration was 34.4 months (Range 19-55); all patients achieved radiological union at mean 4.3 months (Range 3 -8). The MPTA improved from mean of 75.3 +/- 4.063 degrees (Range 71.8- 85.2) to mean post operative angle of 83.8 +/- 3.637 degrees (Range 76.8 - 92.7) (P 0.001). Twelve patients who had abnormal mean anterior slope of -5.58degrees (Range -1.1 to -13) was corrected to mean post operative posterior slope of 5.89degrees (Range -1.1 to 14.1) (P 0.001). In six patients there was mean posterior slope of 17.45degrees (Range 1.4 to 33) and was corrected to mean post operative posterior slope of 14.08degrees (Range 7.4 to 21.3) (P 0.214). The mean knee outcome survey scores improved from 25% +/- 9.68 % (Range-8-48%) to post operative 85% +/- 11.18% (Range -52 to 98%), (P 0.001).

CONCLUSION

Medial open wedge high Tibial osteotomy for varus malunited Tibial plateau fractures is safe and very effective procedure; it provides excellent functional outcome and acceptable radiological outcome and carries minimal complications.

KEY WORDS – Varus malunion, tibial plateau, medial opening wedge, high tibial osteotomy,