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Supramalleolar Osteotomy: A Joint-Preserving Option For Advanced Ankle Osteoarthritis

Orthopaedics / Foot & Ankle / Joint Preserving Surgery & Soft-tissue Repair

Prasad Karpe, Ravishankar Tangirala, Rajiv Limaye

North Tees and Hartlepool NHS, Stockton On Tees, United Kingdom

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Background

Until recently, surgical treatments for advanced ankle osteoarthritis have been limited to arthrodesis or ankle replacement. Supramalleolar osteotomy provides a joint-preserving option for patients with eccentric osteoarthritis of the ankle, particularly those with varus or valgus malalignment

Objectives

To evaluate radiological and functional outcomes of patients undergoing shortening supramalleolar osteotomy for eccentric (varus or valgus) osteoarthritis of the ankle.

Study Design & Methods

Prospective review of patients from 2008 onwards. Osteotomy was the primary surgical procedure in all patients after failure of non-operative measures.

Pre-operative standing antero-posterior and Saltzman view radiographs were taken to evaluate degree of malalignment requiring correction. Radiological and clinical outcomes were assessed at 3, 6 and 12 months post-operatively. Radiographs were reviewed for time to union.

Patients were assessed on an outpatient basis for ankle range of motion as well as outcomes using AOFAS scores.

Results

: 33 patients over a 7 year period. Mean follow-up was 25 months (range 22-30).

Mean time to radiological union was 8.6 weeks (range 8-10); there were no cases of non-union. There was a statistically significant improvement in functional scoring ($P < 0.001$); mean AOFAS score improved from 34.8 (range 15-40) pre-operatively to 79.9 (range 74-90) at 12 months post-operatively. There was no significant change in pre- and post-operative range of motion.

2 patients required revision surgery at 12 months; one to arthrodesis and one to ankle replacement.

Conclusions

Supramalleolar osteotomy is a viable joint preserving option for patients with eccentric osteoarthritis of the ankle. It preserves motion, redistributes forces away from the affected compartment and corrects malalignment, providing significant symptomatic and functional improvement.