

What is the optimal treatment of acute, displaced, midshaft clavicle fractures in adults?

A systematic review with focus on fracture union and functional outcome.

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Abstract

Introduction

The optimal treatment of acute, displaced, midshaft clavicle fractures is controversial. Despite lack of compelling evidence towards superior results after primary surgery more and more patients seems surgically treated. The aim of this study was to investigate what treatment is to be preferred for this population according to current literature.

Method

Randomized trials and prospective cohort studies, comparing different treatment modalities for acute, displaced, midshaft clavicle fracture in adults, published in English from 1966 to August 2011 were sought via an electronic database search (MEDLINE).

Results

Five studies with a total of 365 patients were identified. All fractures were described as midshaft fractures with complete displacement of the bony parts.

Overall the functional outcome (measured with Constant score) was better in the surgical treated groups compared to the conservative treated groups. Likewise union rates were higher in the surgical groups compared to the conservative groups. Overall complication rates were close to 30 % in the surgical treated groups compared to 47 % in the conservative groups.

Conclusion

Surgical treatment of acute, displaced, midshaft clavicle fractures with a plate results in better functional outcome and lower mal- and nonunion rates than conservative treatment. However, the clinical relevance of the observed functional benefits are questionable as are the use of shoulder outcome scores frequently used to assess the functional outcome of clavicle fracture treatment. When operative treatment is preferred the number need to treat to avoid a nonunion is high.
