



Isolated interfragmentary compression for nonunion of humeral shaft fractures initially treated by nailing: A preliminary report of seven cases

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Introduction

Plating with bone grafting is considered the gold standard treatment for nonunion of humeral shaft fractures. However, this complex procedure involves multiple risks. The aim of this study is to evaluate an alternative treatment using isolated axial interfragmentary compression for the dynamisation of humeral shaft nonunion after retrograde locked nailing.

Materials and methods

Between January 2000 and May 2009, 124 humeral shaft fractures were treated in our trauma department with retrograde locked nailing using the unreamed humeral nail (UHN®, Synthes, Paoli, PA, USA). Nonunion occurred in seven patients (5.6%) – five females and two males, mean age 44 years (range: 17-73 years). The nonunion was treated by applying isolated secondary interfragmentary compression. Mean follow-up was 43 months (range: 8-74 months). The Rommens score and the disabilities of the arm, shoulder and hand (DASH) score were used to evaluate the global functioning of the upper limb.

Results

The compression procedure was successful in all seven cases. In each case, the union occurred without any complications in 3-5 months. The mean DASH score was 25/100 (range: 8.3-60.8/100). The Rommens score was judged excellent for five of the seven patients but two were rated moderate. One of these suffered from complex regional pain syndrome type II since the fracture, and another developed a stiff shoulder 6 months after trauma.

Conclusion

Isolated secondary interfragmentary compression appears to be a simple and successful procedure in cases of humeral nonunion.

Résumé en
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