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Subtalar arthrodesis: does a second screw increase the fusion rate?

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ABSTRACT

Introduction: There is no consensus in the literature on the most effective technique for subtalar arthrodesis, particularly the optimal number of screws for adequate fixation. Our objective is to determine whether there is a difference in the fusion rates of subtalar arthrodesis when one or 2 compression screws are used.

Methods: Retrospective study assessing the fusion rate of patients who underwent subtalar arthrodesis between January 2012 to December 2016. Fusion was determined clinically using radiographs and, when necessary, computed tomography.

Results: The final sample consisted of 80 patients, 78.8% of whom were male, and the mean final evaluation time was 23.27 months. Subtalar arthrosis due to calcaneal fracture was the etiologic factor in 95% of the patients. The group that underwent arthrodesis with one screw accounted for 68.75% patients, and the group with 2 screws accounted for 31.25% patients. The incidence of nonfusion was 10.9% in the group for which one screw was used, in contrast to 4.0% in the group in which 2 screws were used, and the difference was not significant (p=0.425).

Conclusion: The use of a second screw did not improve the fusion rates of subtalar arthrodesis.

Keywords: Arthrodesis; Subtalar; Screws; Fusion; Pseudarthrosis.