

Mini-Open and Arthroscopic Ankle Arthrodesis

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Summary:

To evaluate and compare the clinical results of arthroscopic and mini-open ankle arthrodesis.

Abstract:

Background: Numerous techniques for ankle arthrodesis have been reported since the original description of compression arthrodesis. The external fixation and internal fixation techniques for ankle arthrodesis were developed. Although the open technique is still widely used for ankle arthrodesis with major deformity, the mini-open and arthroscopic ankle arthrodesis were developed and recommend for ankle arthrodesis with minimal or no deformity. Purpose: To evaluate and compare the clinical results of arthroscopic and mini-open ankle arthrodesis. Methods: 74 cases were divided into two groups, Arthroscopy group: 22 cases of arthroscopic ankle arthrodesis; Mini-open group: 52 cases of mini-open ankles arthrodeses. There were the same criteria of inclusion, exclusion in both groups. The cartilage of tibial-talus joint was completely removed under arthroscopy and mini-open incision. Two guide pins were inserted from posterosuperior to anteriorinferior and cannulated screws were implanted to fix ankle joint. All patients were physically examined with an extended protocol of questionnaires and the AOFAS Ankle and Hindfoot Scales. Ankle fusion in all patients was evaluated by clinical exam and radiology. Results: In the arthroscopy group, all patients, with mean postoperative follow-up period of 40.5 months (range 12-96 Ms), were proved to be bone union by clinical exam and radiology with mean 13.5weeks(9-21Ws). In the mini-open group, 51(98.7%) of 52 cases with mean postoperative follow-up period of 41.0 months (range 12-105 Ms), were proved to be bone union by clinical exam and radiology with mean 14.0weeks(9-24Ws). There was no significant difference between the arthroscopy group (75.5 ± 7.6 , n=22) and the mini-open group (72.3 ± 4.6 , n=52) at the final follow-up in the AOFAS Ankle and Hindfoot Scales.. There was no infection, local skin necrosis, screw loosening, and so on in both group. Conclusion: Both arthroscopic and mini-open ankle arthrodesis had a good clinical outcomes, with high union rate, lower rate of complications.

Key Words: Ankle, Arthrodesis, Arthroscopy, Mini-open surgery