The Effects of Tibialis Anterior Tenotomy on Wound Complications after Anterior Fusion Plating for Severe Ankle Arthritis

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INTRODUCTION:
Because nonunion is known to be a relatively common complication following ankle arthrodesis, various fixation techniques have been introduced to enhance the stability and to improve fusion rate. With the use of anterior plate supplementation, postoperative wound problems have been frequently reported despite better fusion rate. This study was performed to determine the effects of tibialis anterior (TA) tenotomy on wound complications and functional outcomes after anterior fusion plating for severe ankle arthritis.
METHODS: Fifty-two patients who underwent ankle arthrodesis using anterior fusion plate were followed for more than 3 years. TA tenotomy was performed prior to wound closure in all patients. As a control group, forty-four patients who underwent arthrodesis without TA tenotomy were analyzed. Functional outcomes were evaluated with Ankle Osteoarthritis Scale(AOS) and Foot and Ankle Ability Measure (FAAM). Wound complication rate, time to fusion, fusion rate, time to pain relief below 3 points in visual analog scale were evaluated.
RESULTS:
Mean AOS and FAAM scores significantly improved to 32.6 and 69.4 points at final follow up, respectively. As compared to control group (33.8 and 67.7 points), there were no significant differences in functional outcomes. As postoperative wound complications, there were 1 case of wound dehiscence and 1 case of superficial wound infection. TA tenotomy group showed lower wound complication rate (3.8%) than control group (20.5%). While there were no significant differences in fusion rate, time to fusion, and time to pain relief between both groups, control group needed higher rate of implant removal.
DISCUSSION AND CONCLUSION: Ankle arthrodesis using anterior fusion plate in conjunction with TA tenotomy appears to be an effective surgical option for end-stage ankle arthritis, with higher fusion rate and less wound complication rate. Although there was no specific functional deficit related to a loss of the TA tendon, further studies are needed to determine the long-term effects of the TA tenotomy in patients with a fused ankle.