Early Weight Bearing on Weber C Fractures with Retained Syndesmotic Screws

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Introduction/Purpose: There is no consensus about when to allow weight bearing in ankle fractures treated with syndesmotic screw fixation. There has been no evaluation of the radiographic fate of the syndesmosis when syndesmotic screws are retained and early weight bearing is encouraged, or the clinical result depending on the screw status, which can be intact, broken or loose. Our objective was to evaluate the radiographic and clinical parameters of patients who had a screw fixation of the syndesmosis and early weight bearing was allowed. Our hypothesis was that no difference would be observed on syndesmotic reduction or clinical function depending on the screw status.

Methods: We analyzed 42 patients with ankle fractures treated with syndesmotic screws in which early weight bearing was allowed (3 weeks postoperatively). Weight bearing radiographs were obtained at 2 weeks, 2 months and at final follow up (41.2 months). Radiologically we measured medial clear space (MCS), tibiofibular overlap (OL), tibiofibular clear space (CS), talar shift (TS) and screw condition (intact, broken, loose). Clinical function was measured with the AOFAS score and stratified by the screw condition. Statistical analysis was performed with the SPSS software and a non-inferiority confidence interval for the mean was calculated.

Results: At final follow up, 66.6% of the screws were broken, 30.9% showed significant loosening and only 1 patient (4.7%) had a screw that remained solid with no signs of osteolysis. MCS at 2 weeks, 2 months and at final follow up was 2.94mm; 3.03mm; 3.02, respectively. OL was 6.76mm; 6.78mm; 6.83 and CS was 4.26mm; 4.66mm; 4.6mm. No TS was detected. There was no difference in measurements along time (p>0.05). Relative to clinical function, the mean AOFAS score was 95 points. No difference was found between the clinical scores of patients stratified by the screw condition (p>0.05).

Conclusion: Early weight bearing on a fixed syndesmosis appears to be safe, with no measurable radiographic or clinical consequences regarding ankle joint function. Despite screw breakage or loosening on x-rays, loss of reduction is seldom observed. We suggest that routine removal of syndesmotic screws is not necessary in these group of patients.

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