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Syndesmosis assessment in postoperative patients subjected to surgical treatment of supra-syndesmotic fracture

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ABSTRACT

Objective: To demonstrate the patterns of syndesmosis reconstruction in ankle fractures via the measurement of pre-established and universally accepted parameters.

Methods: In a retrospective study, fractures with radiographic images obtained during the postoperative period and showing fixation of the distal tibiofibular syndesmosis were selected. Fracture reduction and syndesmosis fixation were evaluated by measuring radiographic parameters in the selected cases.

Results: Twenty-three patients (63.8%) were male. Fourteen fractures (38.8%) were operated on by a senior surgeon (foot and ankle specialist). All syndesmoses were fixed with only one screw, and 35 patients (97.2%) had syndesmosis fixation involving 3 cortices. The mean syndesmosis fixation height from the articular surface was 2.20cm. Four fractures (11.1%) presented radiographic signs of medial ligament reconstruction. Regarding the measurement of the tibiofibular space, in the anteroposterior (AP) view, 33 patients (91.6%) had values within the normal range. Regarding the tibiofibular overlap, in the AP view, 19 patients (52.7%) had measurements with values greater than 10mm (normal). In the evaluation of tibiofibular overlap, in the true anteroposterior (AP) view, all patients (100%) presented measurements greater than 1mm (normal). Regarding the measurement of the talocrural angle, only 1 patient did not have normal parameters. Regarding the medial clear space, only 2 patients (5.5%) had values above normal during the postoperative period.

Conclusion: The adoption of objective, standardized parameters relative to the contralateral side adds value to the evaluation and ensures an accessible and reproducible method for evaluating syndesmotic ankle fractures.

Keywords: Ankle; Ankle joint; Ankle trauma.

