Adjustable Button for Tibial Spines Avulsion Fractures
Julio Velez

Purpose: This study aimed to determine the clinical and functional results of arthroscopic fixation of tibial spine avulsion fractures using the self-adjusting button technique, according to the IKDC and Lysholm scales, in patients of the Tlalnepantla ISSEMyM Regional Hospital from March 2018 to February 2021.

Methods: After IRB approval and informed consent, 18 patients aged 21-60 years with no previous pathological history of acute fractures due to avulsion of Meyers and McKeever II to IV tibial spines were enrolled at the Health Institute of the Mexican state. Two patients were excluded, and the remaining underwent arthroscopic reduction through a 2.4 guide wire drill tip using the 55° tibial drill guide aimer, followed by perforation with the 4.0 cannulated drill bit. An Arthrex AC Tight Rope® button was passed through a nitinol guide, adjusted with grasper forceps, and activated while visualizing arthroscopic reduction at 30 degrees of knee flexion. Continuous mobilization was indicated at tolerance, and weight-bearing was deferred for 21 days.

Results: Clinical functional results were evaluated according to the IKDC and Tegner Lysholm scores up to 12 weeks. An observational analytical cohort study of a single arm, non-randomized cross-sectional type was carried out. Non-probabilistic sampling was used for consecutive cases, with an alpha level of 0.05. At the 12-week follow-up, radiographic data showed bone consolidation, with a mean Lysholm score of 89.43 and an IKDC score of 87, with a global function rating of 8 out of 10. The p-value for comparing both result scores was greater than 0.05. A non-inferiority test was performed to compare these results with other surgical techniques, resulting in a p-value greater than 0.05, indicating that this technique is not inferior to screws or suture fixation techniques.

Conclusion: The self-adjusting button technique for tibial spine fractures in skeletally mature patients has good clinical and functional results according to the Tegner Lysholm and IKDC scales. A superiority study is necessary to determine if it is the best technique for this condition.