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Letter to editor concerning "Relationship between fracture morphology of lateral malleolus and syndesmotic stability after supination-external rotation type ankle fractures" by Dong-Il Chun, Jahyung Kim, Yoon Seok Kim, Jae-Ho Cho, Won, Su-Yeon Park, Young, Yi. Injury. 2019 (in press)

It was a great learning experience to read the article by Dong-Il Chun et al regarding newly defined relationships between fracture patterns in supination-external rotation injuries and syndesmotic disruption [1]. These results are interesting and will definitely add to our clinical practice. The authors have rightly concluded that parameters studied in CT studies rather than radiographs can help in preoperative prediction of unstable syndesmotic injuries. However, there were certain points which needs clarification and corrections from the authors.

1 The authors have rightly divided the groups into unstable and stable syndesmotic groups. However, the final criteria or basis for marking syndesmotic injury as stable or unstable is not clear. It has been well known that a major proportion of the syndesmotic translations get automatically stabilized with the reduction of Volkmann and Chaput fragments. The authors have described the intraoperative Cotton's test after fracture fixation, clear syndesmotic space, and preoperative CT analysis as the basis for marking the syndesmosis stable or unstable. It has not been specified regarding what order was followed while using these factors for classifying syndesmotic disruptions as stable and unstable ones. The Cotton's test has low sensitivity for predicting syndesmotic disruptions compared to the fibular translation test [2]. Therefore, it would be helpful to know whether any other maneuvers were performed for the intraoperative assessment of syndesmotic disruption other than the Cotton's test. For example, if a case with SER III injury with preoperative CT suggesting syndesmotic disruption and in which all fractures including the Volkmann fragment have been fixed shows negative cotton test intraoperatively what would be the final classification? Would it be purely based on the outcome of Cotton's test?
2 The third para under "operative technique and group dividing" states - "Majority of SER-type ankle fractures with tibio-fibular displacement preoperatively in the CT scan showed positive cotton test intraoperatively. However, nine patients had syndesmotic injury with tibio-fibular instability intraoperatively during the cotton test". It is unclear to what group the "nine" patients belong, the group with CT detectable syndesmotic disruption or those with nondetectable syndesmotic disruption in CT pictures. Or whether the term "instability" should be replaced with "stability".
3 In the opening line of the last para under "CT scan evaluation" section, "On preoperative ankle radiographs" is probably a mistyped phrase and should be corrected to "On preoperative CT images".
4 The ranges or standard deviations of fragment angles in the two groups have not been specified while the same have been provided for other parameters. Also the superscript (*) with the fragment angle in table 3 has not been explained under the table or elsewhere.
5 The second line of the sixth para under "Results" section incorrectly states that the AUC for medial joint space widening on CT was 0.540 (0.469-0.610), and the appropriate cutoff value was >8.27 mm which should actually be meant for posterior cortex height.

References

[1] Chun Dong-Il, Kim Jahyung, Kim Yoon Seok, Cho Jae-Ho, Won Sung-Hun, Park Su-Yeon, et al. Relationship between fracture morphology of lateral malleolus and syndesmotic stability after supination-external rotation type ankle fractures. Injury 2019 (In press).
[2] Schwieterman B, Haas D, Columber K, Knupp D, Cook C. Diagnostic accuracy of physical examination tests of the ankle/foot complex: a systematic review. Int. J. Sports Phys. Ther. 2013;8(4):416–26.

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