Editorial Commentary: Do We Need to Treat All Lesions Operatively in Elbow Terrible Triad?

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Abstract: Arthroscopic reduction and fixation techniques in elbow surgery are evolving, and more and more literature is describing good outcomes of new arthroscopic fixation methods for coronoid fractures, lateral collateral ligament tears, radial head fractures, or capsular avulsions. The possible next step could be to use all these different techniques in cases in which all the described lesions can be seen. However, the question is if this approach is too aggressive. Although it is technically feasible to perform, this approach may not be necessary.

I read with great interest the article “Case Series of All-Arthroscopic Treatments for Terrible Triad of the Elbow: Indications and Clinical Outcome” by Lee, Lim, and Kim. They describe their excellent results of an all-arthroscopic treatment in quite a large group of patients with a specific pathology. I liked their arthroscopic step-by-step approach to treat this difficult pathology. First, they performed arthroscopic fixation or partial excision of the radial head fracture; second, fixation of the coronoid process fracture or anterior capsular repair; and finally, lateral collateral ligament complex repair. With this approach, they were able to restore stability enough to permit early rehabilitation.

However, my first observation is the fact that all coronoid lesions were addressed surgically. This is uncommon in my practice. My approach is based on the study of Papatheodorou et al., who described that if clinical stability can be achieved after surgical repair of the lateral ulnar collateral ligament and repair or replacement of the radial head, Regan-Morrey type I and II coronoid fractures do not need to be repaired to obtain a good outcome. This approach is also based on the biomechanical study of Schneeberger et al., who described that stability can be achieved with only radial head replacement in cases with a bone defect involving 30% of the coronoid process or less. Maybe it would be possible to change the algorithm and first treat the radial head fracture, second perform a lateral collateral ligament repair, and next perform an evaluation of intraoperative stability. If the elbow is unstable, the coronoid fracture can be treated arthroscopically as proposed.

Another observation is the fact that Lee et al. described reducibility as an indication for operative treatment of radial head fractures but they did not describe a clinical assessment of a mechanical block to rotation. In my opinion, evaluation of a mechanical block is an important step to obtain a treatment plan. If there is no mechanical block, I do not address a radial head fracture surgically even if it is arthroscopically reducible. In conclusion, this study shows that arthroscopic fixation in specific cases of terrible triad injury could be possible, with good results; however, it is not possible to evaluate if all the performed steps were necessary to obtain the same results.

References