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TS18: NON-COMMINUTED LATERAL CLAVICLE FRACTURES ASSOCIATED WITH CORACOCLAVICULAR LIGAMENT DISRUPTION: A NEW ANATOMICAL TECHNIQUE FOR SUPERIOR FIXATION AND STABILITY

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Abstract

Distal clavicle fractures associated with coracoclavicular ligament disruption are potentially unstable. Internal fixation of these fractures is often inadequate due to two anatomical problems:

1. Inadequate distal fragment size and
2. Displacement and instability consequent to ligament disruption.

We hypothesize that a contour-matched locking plate coupled with a coracoclavicular ligament repair device would provide a potentially safe and minimally invasive method for adequate fixation.

Between 2006 and 2008, 5 patients were surgically treated for non-comminuted distal clavicular fractures associated with coracoclavicular ligament disruption. The surgical technique consisted of

1. neutralization of muscular forces on the proximal fragment by using a minimally invasive ligament repair device (TightRope™, Arthrex, FL), and
2. Internal fixation using a contour-matched locking plate (Distal radial locking plate, Synthes).

Technical tips to optimize this new procedure are presented. Outcome measures consisted of

1. Constant shoulder score
2. Radiographic union.

The retrospective follow-up period varied from 8 weeks to 24 months. A statistically significant improvement in the Constant score was observed in every patient. All patients progressed to satisfactory bony union. Plate removal was not necessary in any patient. Potential complications include screw penetration of the acromioclavicular joint, acromioclavicular ligament disruption, and distal fragment comminution.

A contour-matched locking plate coupled with a coracoclavicular ligament repair device is a new less invasive and safe anatomical approach for achieving fixation adequacy in a highly unstable but non-comminuted distal clavicular fracture subgroup. We recommend strict adherence to the guidelines presented (technical tips) to achieve an optimal result.

Footnotes

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Declaration of interest: a