Surgical Technique

Arthroscopic Bony Bankart Repair: A New Technique to Achieve Compression Across Fracture Site.

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Abstract

The risk of recurrent anterior shoulder dislocation can be minimized by repairing bony Bankart lesions and restoring the anatomy of the glenoid. We present a technique in arthroscopic bony Bankart repair. Our technique based on two suture anchors placed at the superior and inferior part of the lesion with a way to make horizontal mattress suture to compress the fragment across fracture site. We believe this technique is simple, easy to reproduce with good outcomes.

Keywords: Bony Bankart; Arthroscopic repair; compression of fracture; sports injury.

Introduction

Bony Bankart lesions are associated with anteroinferior glenohumeral instability. These are avulsion fractures of the anterior glenoid rim. (1-2) It is more common in males and usually caused by shoulder dislocation (3). Multiple techniques have been described to address bony Bankart lesions either open or arthroscopic. The arthroscopic techniques that have been described include Bankart repair technique with suture anchors placed at the glenoid rim with or without additional sutures for augmentation passed around or through the fragment (4-5). We present a new technique to fix the bony fragment. It relies on two-point fixation with a way to make horizontal mattress suture to compress the fragment across fracture site.

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Patient is placed in lateral decubitus position. All the procedures were performed by the senior author (RM). Diagnostic arthroscopy of the shoulder is performed using a standard posterior portal. The bony fragment with the attached labro-capsulo-periosteal complex is elevated. Any adhesions are released and satisfactory mobilization of the Bankart bony fragment is confirmed. Anterosuperior and anteroinferior portals are made. We routinely use 8 mm cannula in the anteroinferior and 5 mm cannula in the anterosuperior portal.

An anchor is placed at the edge of fracture site near inferior aspect of the bed of the fragment (figure 1). A suture is passed through the flap at inferior aspect of the bony fragment and a knot is tied. An anchor is placed at the edge of the fracture site near the superior aspect of the bed of the fragment (figure 1). A suture is passed through the flap at superior aspect of the bony fragment and knot is tied. Care is taken to tie these knots on peripheral aspect of the fragment. (figure 1) One limb of suture from each knot is removed. The remaining two limbs are tied with each other over peripheral aspect of the fragment (fig. 2). While tying this knot care is taken to elevate the
fragment to desired level and compression is achieved as well (fig 3). If the tear progresses through rest of the labrum, it is repaired as standard technique.

Figure (1): A suture is passed through the flap at inferior aspect of the bony fragment and knot is tied. A suture is passed through the flap at superior aspect of the bony fragment and knot is tied.

Figure (2): One limb of suture from each knot is removed. The remaining two limbs are tied with each other over peripheral aspect of the fragment to achieve compression.
Discussion

Bony Bankart lesions have long been considered an indication for open surgery (1). But the high success rate of arthroscopic surgery prompted us to treat bony Bankart lesions arthroscopically in selected patients (4). Different approaches have been recommended to treat these anterior glenoid fractures. Porcellini et al. advocated an arthroscopic anchor-based technique in which sutures are wrapped around the bony fragment and labrum (4). A variety of suture-bridge techniques have been reported (6-8). These techniques, however, are increasingly complex and rely on permanent suture passing over the articular surface of the fracture fragment, which may not be ideal when a large portion of the glenoid is involved. In cases of older fractures or bone loss with fragments that cannot be reduced, other techniques such as an open or arthroscopic Latarjet procedure or iliac crest bone graft reconstruction should be considered (9-12).

The arthroscopic techniques allow management of concomitant intra-articular pathology. It also avoids the morbidity of an open techniques with subscapularis detachment (9). Our Technique has the combined advantages of repairing the bony Bankart with restoring the glenoid anatomy and compressing the bony fragment. It is a simple, easy to reproduce technique in treating bony Bankart lesions.

References:


