

· 综 述 ·

肩关节 Bankart 损伤修复术后复发的因素

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摘要: 肩关节脱位占全身关节脱位的一半, 其中以复发性前脱位为主, 肩关节前脱位大部分存在 Bankart 损伤的可能。关节镜下修复 Bankart 损伤是肩关节复发性前脱位的主要治疗方法。术后复发是常见难题。研究表明 Bankart 损伤修复术后复发与肩关节骨量丢失、患者年龄、运动量大小、手术修复方式、术后功能康复不当以及自身疾病等有关。本文对 Bankart 损伤修复术后复发的因素进行综述, 为临床提供参考。

关键词: 肩关节前脱位, Bankart 损伤, 术后复发, 研究进展

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Factors related to recurrence after Bankart procedure // ZHOU Yu¹, LIU Yu-jie², ZANG Lei¹. 1. Department of Orthopaedics, Beijing Chaoyang Hospital, Capital Medical University, Beijing 100043, China; 2. Department of Orthopaedics, General Hospital of PLA, Beijing 100853, China

Abstract: Shoulder dislocation accounts for half of all joint dislocation in human, among which recurrent anterior shoulder dislocation is the most common one with Bankart lesion in almost every case of anterior shoulder dislocation. Arthroscopic Bankart procedure is the main treatment for shoulder dislocation currently, however, postoperative recurrence remains a difficult problem. A large number of studies have shown that the recurrence after arthroscopic Bankart procedure is related to glenoid bone loss, patient's age, extent of motion, surgical methods, improper postoperative rehabilitation exercise and self-diseases. This paper reviews the factors related to recurrence after Bankart procedure, to provide reference for clinicians.

Key words: anterior shoulder dislocation, Bankart lesion, postoperative recurrence, research progress

肩关节前下孟唇-关节囊-韧带复合体撕裂损伤 (anterior labroligamentous periosteal sleeve avulsion, ALPSA), 最早由 Bankart 发现, 此后将此损伤命名为肩关节 Bankart 损伤。肩关节前脱位时, 肱骨头与肩关节前下孟唇-关节囊-韧带复合体撞击造成 Bankart 损伤。而肩关节脱位发病率较高, 占全部关节脱位的一半^[1-2], 几乎每个肩关节前脱位的患者都存在 Bankart 损伤的可能^[3], 因此 Bankart 损伤的治疗受到普遍的重视。保守治疗复发率高, 仅适合于骨缺损较小且功能要求低的老年人群^[4]。手术修复 Bankart 损伤已成为标准治疗^[5]。随着关节镜技术以及内固定材料的进步, 关节镜下修复 Bankart 损伤较传统开放手术的优点逐渐显现^[6]。但不论哪种方式进行 Bankart 损伤修复术^[7], 术后仍有一定比例的再损伤或复发性脱位的情况^[8]。本文通过就影响肩关节 Bankart 损伤术后复发的因素加以探讨。

1 骨性缺损因素

Bankart 损伤修复术是指肩关节前下孟唇-关节囊-韧带复合体软组织修复手术。但肩关节反复脱位, 肱骨头与关节盂不断撞击会造成关节盂的骨性缺损, 即骨性 Bankart 损伤^[9]。肩关节不稳术后复发的病例 80% 与骨丢失有关^[10]。Bankart 损伤骨缺损者仅行软组织修复的复发率高达 67%^[11]。研究表明骨缺损越多肩关节越不稳定、复发率越高^[12]。

近年来研究显示, 将骨缺损需要修复的标准从 25% 降到 17.3% 以及更低的 13.5%^[13-15]。有报告指出骨缺损 > 10% 的骨性 Bankart 损伤, 软组织修复效果明显低于骨性重建的手术效果^[16]。但是, 关节盂骨缺损到什么程度需要修复重建还存在较多争议^[13, 14, 17], 仍需要进行多中心大样本的研究。

复发性肩关节前脱位时, 肱骨头反复与关节盂撞击会造成肱骨头后上方骨质缺损, 即 Hill-Sachs 损伤^[18, 19]。研究显示^[20] 合并 Hill-Sachs 损伤的复发性肩关节脱位, 如果只单纯修复 Bankart 损伤复发率将

会明显增加。Remplissage 手术^[21]是将冈下肌腱及后方关节囊缝合固定至肱骨头缺损处,能够有效重建肩关节稳定性,避免术后再脱位的发生;对于肩关节 Bankart 损伤合并 Hill-Sachs 损伤患者,联合修复比单纯 Bankart 损伤修复的复发率更低。

肩关节脱位伴肱骨损伤即孟肱韧带肱骨撕脱(humeral vulsion of gleno-humeral ligaments, HAGL)损伤是一种少见的损伤。肩关节脱位时孟肱下韧带在肱骨附着点处撕脱损伤。Nvasartian 等^[22]认为需要根据损伤的不同位置建立 2 个后入路方可进行镜下修复,但对手术入路的选择需要精准操作,如果操作不当会损伤肩胛下肌及腋神经。对于肩关节镜下经验丰富的医师可在全关节镜下手术修复 HAGL 损伤,开放手术修复也是一种可以选择的方案。

2 年龄和运动量

有研究显示年轻人 Bankart 损伤修复术后复发率明显高于老年人^[23],这与年轻人的活动量高和对肩关节功能要求高有关。另外,有运动需求的人群 Bankart 损伤复发率较高,既往研究也显示运动员复发率较高^[24]。国内外的研究均显示,参加军事训练的军人群体肩关节脱位的发病率和复发率均高于其他普通人群^[25]。随着运动人群的不断增多,Bankart 损伤患者的绝对数量会增加,值得重视。

3 手术修复方式因素

近年来,在关节镜下修复 Bankart 损伤较传统开放手术的优势得到了认可。目前临床应用的修复材料有钛合金、PEEK、PLA 可吸收材料等。锚钉有可能引起其周围骨溶解和抗把持力度的降低。临床应用中可吸收钉的材料降解、锚钉毁损、引发炎症反应等现象^[26, 27]会增加修复术后失败的概率。选择何种材料的锚钉修复 Bankart 损伤其复发率无明显差异^[28]。

锚钉的数量及固定位置对 Bankart 损伤修复术后复发有明显的影响。有研究显示 Bankart 损伤修复术采用 3~4 枚锚钉,能够分散每 1 枚锚钉的应力,通过锚钉之间的“负荷共享”效应加强对下孟肱韧带保护,从而增加肩关节前方稳定性,为 Bankart 损伤修复后的组织愈合提供良好的力学基础^[29]。手术技术原因也是导致锚钉松动、失效和术后复发的重要原因之一^[30]。Boieau 等^[31]认为置入少于 3 枚锚钉复发性关节不稳的风险较高,建议置入 4 枚锚钉。

Sisto 等^[32]研究发现在 Bankart 损伤修复术失败的患者中,87%的锚钉没有置入 4 点钟位置。间隔 5~8 mm 置入锚钉,多个锚钉固定有利于损伤的愈合,但是锚钉的最佳位置仍需探讨^[33]。

4 术后运动与功能锻炼因素

Bankart 损伤修复术后过早的不恰当的肩关节运动,术后制动时间不足、早期过顶运动会增加复发的概率^[34]。作者的体验是 Bankart 损伤修复术后,间歇悬吊固定 4~6 周,限制外展、屈曲和外旋,进行被动活动度练习;6~8 周时进行专项运动训练、关节主动活动练习。

5 自身疾病因素

肩关节韧带松弛症的患者 Bankart 损伤修复术不能解决韧带松弛的难题,很容易再脱位,术后疗效较差^[35]。如果对关节松弛症的 Bankart 损伤认识不足^[36],术中缝合不牢固,是术后复发的因素^[37]。有研究显示依次在关节盂 5:30、4:30 和 3:00 位置置入锚钉,依次在距离关节囊边缘 0.5、2.0 cm 处垂直褥式缝合关节囊可以减少术后复发^[38]。

另外,合并骨质疏松症的患者,锚钉的把持力会明显减弱,而且患者组织愈合能力也会减退,术后复发率有所增加^[39]。Bankart 损伤修复术后出现意外再次受伤可导致其修复术后复发。

6 小结

近年来随着对 Bankart 损伤的研究逐渐深入,对 Bankart 损伤修复术后复发的因素亦有进一步认识。今后还需要对有争论的问题加以研究,比如骨丢失到什么程度就需要重建骨结构,仍需要大量样本的研究及随访。综上所述,严格选择手术适应证,术前应用 CT 充分评估骨丢失情况及综合评估手术方案,术中全面检查明确损伤的病理基础,有针对性地进行修复损伤,术后严格按照康复程序进行功能康复,尽量减少术后复发率。

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