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·临床研究·

肩关节前下盂唇损伤非牵引下关节镜修复术的临床分析

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[摘 要] **目的** 探讨非牵引技术在肩关节前下盂唇损伤肩关节镜修复术中的应用效果。**方法** 回顾性分析2009年1月至2015年1月我科收治的182例肩关节前下盂唇损伤患者的临床资料,年龄18~39岁,平均(26.5±9.3)岁;病程1~10年,平均(3.2±2.6)年;复发脱位6~62次,平均(24.2±17.3)次。在非牵引技术下进行了侧卧位肩关节镜下非骨性修复术,术后采用Rowes评分、UCLA评分系统进行疗效评价。**结果** 182例获6~18个月随访,平均(12.5±6.7)个月。12例术后外旋活动受限20°,无法参加对抗性训练,余170例能够参加对抗性训练。全部患者平均肩关节外旋活动角度丢失(10.5±4.1)°。术后UCLA评分(89±3.5)分较术前(25±6.2)分明显提高,差异具有统计学意义($P<0.05$);术后Rowes评分(28.7±2.2)分较术前(7.3±1.6)分明显提高,差异具有统计学意义($P<0.05$)。**结论** 非牵引技术在训练伤致肩关节前下盂唇损伤肩关节镜修复术中的应用疗效满意,术中因无巨大的外力牵引从而保护了臂丛神经、血管等组织,有利于患者快速康复,值得在基层医院推广应用。

[关键词] Bankart损伤;关节镜;肩关节不稳;盂肱关节

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Application of arthroscopic repair without traction for non-osseous Bankart injury in shoulder

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Abstract: **Objective** To explore the clinical effect of arthroscopic repair without traction for non-osseous Bankart injury. **Methods** From January 2009 to January 2015, the clinical data of 182 cases underwent arthroscopic Bankart repair for anterior shoulder instability in our hospital were analyzed retrospectively. They were aged from 18 to 39 years old, mean age was (26.5 ± 9.3) years. The course of disease was from 1 to 10 years, mean duration was (3.2 ± 2.6) years. Recurrent dislocation was 6 to 62 times, with average of (24.2 ± 17.3) times. All cases were performed arthroscopic repair without traction. Rowes scores and UCLA scores were used for evaluation. **Results** All of 182 cases were followed up from 6 to 18 months, an average of (12.5 ± 6.7) months. Of the 182 patients, 12 cases with postoperative limited 20 ° external rotation could not attend confrontational training and the other 170 cases had no adverse effect. The average loss of shoulder joint extorsion activity angle were (10.5 ± 4.1)°. Postoperative UCLA score (89 ± 3.5) was more than preoperative (25 ± 6.2), the differences were significant ($P<0.05$). Postoperative Rowes score (28.7 ± 2.2) were more than preoperative (7.3 ± 1.6), the differences were significant ($P<0.05$). **Conclusion** Curative effect of arthroscopic repair without traction for non-osseous Bankart injury caused by training is satisfactory, which can provide brachial plexus, blood vessel and other tissues during surgery from traction, and be helpful to the popularization and application in basic-level hospitals.

Keywords: Bankart injury; arthroscopy; shoulder joint instability; glenohumeral joint

肩关节脱位在肩关节运动损伤中较为常见,复发性肩关节脱位手术治疗已成共识。复发性肩关节脱位时对于前下盂唇损伤手术方法有切开和关节镜,随着器械和技术的发展,内镜下微创手术越来越多地得到应用。大部分镜下前下盂唇修复术都是在牵引下进行[1-2],而专用的牵引装置价格较为昂贵,限制了该术式在基层医院的开展。我们在假设非牵引下能够顺利完成肩关节镜下前下盂唇损伤修复术基础上进行了该项研究,以期为临床手术方式提供更多选择。2009 年 1 月至 2015 年 1 月我院开展了 182 例侧卧位肩关节前下盂唇损伤非牵引下关节镜修复术,取得了良好的效果,现报告如下。

1 资料与方法

1.1 临床资料

本组 182 例(182 肩)患者均为男性,年龄 18 ~ 39 岁,平均(26.5 ± 9.3)岁,初次脱位均为外伤所致肩关节前,除外多发韧带松弛病例。病程 1 ~ 10 年,平均(3.2 ± 2.6)年;复发脱位 6 ~ 62 次,平均(24.2 ± 17.3)次。初次脱位后经肩肘吊带外固定后再次运动或训练时发生反复脱位。查体:前抽屉试验(+),恐惧试验(+),MRI 提示肩关节前下盂唇撕裂,CT 证实均未合并关节盂骨性缺损。合并上盂唇前后向损伤(SLAP 损伤)、肩关节后脱位、肱骨头骨缺损、肩袖损伤未者纳入本研究。

1.2 手术方法

患者取侧卧位,采用全身麻醉,标记解剖标志及通道位置。以 18 号腰穿针于盂肱关节内注射生理盐水 20 mL 进行关节扩张,取常规肩关节镜后方“软点”入路置镜检查关节,若关节间隙狭窄则助手向肢体远端略施力牵引患侧上肢,镜下可见前下方盂唇不同程度撕裂、部分或全部缺失。再建立前方入路,第 1 个前方入路位于喙突与肩胛骨前外侧顶点连线的中点,镜下位于肩袖间隙内,作为观察通道(直径 6 mm),第 2 个前方通道于第 1 个前方通道外侧 1.5 ~ 2 cm,镜下位于肱二头肌长头腱上方,作为操作通道(直径 8 mm),此时,后方通道作为辅助通道用于缝合盂唇后过线用。将关节镜置于前方通道 1 观察,于前方通道 2 中进行前下盂缘清理、新鲜化,若前下盂唇缺失较多,则行盂肱中下韧带和部分前关节囊松解,再于关节盂钟表盘 2:30、3:30、5:00 钟位置定位。首先进行 5:00 钟位置操作,开路后拧入 2.8 mm 单线带线锚钉或 3.5 mm 双线带线锚钉,Acu-Pass 过线器缝合撕裂的前下盂唇复合体,若盂唇缺失则将松解开的盂肱中下韧带和前方部分关节囊缝合于缺失部位,向上提拉拟缝合组织,后方通道过线后于前方通道 2 进行打结(SMC 结)操作。再于2:30、3:30 钟位置重复以上操作。完毕后再次探针探查盂唇修复程度及关节稳定性均满意,不放置引流,吸净关节内液体后予罗哌卡因进行局部浸润,全层缝合切口,无菌敷料覆盖。典型病例手术操作过程见图 1。

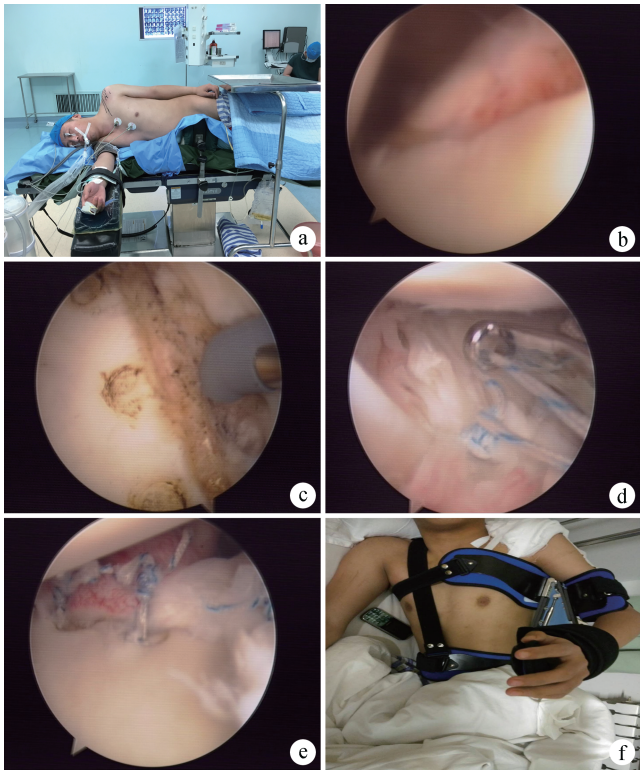
1.3 术后处理

冰袋冰敷患肩 24 h。术后预防性使用抗生素 48 h。术后 7 ~ 10 d 拆线,术后 1、2、3、6、12 个月随访,以后每年门诊随访。术后即可进行腕、肘关节运动练习,术后第 1 天复查 X 射线片、CT 和 MRI,肩关节支具内旋位保护性外固定 6 周,期间进行患肩钟摆练习以及除外旋以外的肩关节活动度训练,6 周后开始进行肩关节外旋练习。术后 3 个月允许患肩逐步进行轻度非接触性训练,6 个月后进行正常训练。

1.4 评价方法及统计学处理

观察再脱位发生情况、术前及术后 VAS 评分、Rowes 评分、UCLA 评分、肩关节外旋活动角度丢失情

况来评价肩关节功能[3-4]。数据以均数±标准差($\bar{x} \pm s$)表示,统计学处理采用 SPSS 18.0 软件,评分结果采用配对 t 检验进行统计学分析,以 $P<0.05$ 为差异有统计学意义。



a:大体体位示右侧卧非牵引;b:从后方可见前下盂唇缺如;c:定位、开路;d:置入 2.8 mm 带线锚钉;e:缝合后可见"堤坝"样前下盂唇复合体结构恢复,肩关节稳定性良好;f:术后肩关节支具外固定

图 1 典型病例(左肩关节前下盂唇损伤)手术操作过程

2 结果

182 例患者术后均获得随访,随访时间 6~18 个月,平均(12.5±6.7)个月。全部患者末次随访时均能正常参与日常训练任务,未发生再次脱位。12 例盂唇缺失患者术后患侧肩关节外旋活动受限 20°无法参加对抗性训练,运动水平较伤前下降,余 170 例均能够参加对抗性训练。全部患者平均肩关节外旋活动角度丢失(10.5±4.1)°。VAS 评分由术前(3.4±1.5)分降低至(0.4±0.8)分,手术前后比较差异具有统计学意义($P<0.05$);术后 UCLA 评分(89±3.5)分较术前(25±6.2)分明显提高,手术前后比较差异具有统计学意义($P<0.05$);术后 Rowes 评分(28.7±2.2)分较术前(7.3±1.6)分明显提高,手术前后比较差异具有统计学意义($P<0.05$)。全部患者未出现关节内或浅表感染、深静脉血栓等并发症。

3 讨论

肩关节是人体中最容易发生脱位的关节,前脱位在肩部运动损伤中较为常见,发生率约为 2%[5-6]。有报道统计,初次脱位及复位过程中导致的前下盂唇韧带复合体损伤即 Bankart 损伤,发生率为 87%~100%[7-10],且多数为肩关节前下盂唇韧带复合体损伤,仅少数发展成为严重的骨性 Bankart 损伤[11-13]。对于经常从事运动年轻人群,脱位复发率高,反复脱位后关节慢性不稳状态导致的创伤性关节炎严重影响患者生活质量,甚至会结束运动生涯。

以往的肩关节前下盂唇损伤修复手术是切开直视下进行,虽然修复效果较好,但存在切口大、出血多、损伤重、术野不清晰等诸多不足。随着微创理念的推广,关节镜操作器械的发展,运动医学医师手术技术的提高,加之关节镜具有小切口、恢复快、出血少、损伤小等优点,肩关节镜下肩关节前下盂唇损伤修复术得到越来越多的开展,特别是近几年来越来越多的基层医院逐渐开展起膝关节运动损伤关节镜外科治疗的临床工作,加深了对关节镜手术的理解,从而使肩关节镜手术得到了进一步的推广。除肩关节前下盂唇损伤合并骨性盂唇损伤这类更严重的损伤外,多数医院依然采用切开植骨内固定的术式。目前,对于单纯的、最常见的肩关节前下盂唇韧带复合体损伤的外科治疗,绝大多数开展该项目的医疗机构都采用关节镜微创手术的方式[14-15]。

无论国际上还是国内较早开展肩关节镜下肩关节前下盂唇损伤修复术的医院,开展该手术绝大多数是在肩关节吊塔或"蜘蛛臂"牵引下完成的[16-20],牵引状态下可以充分扩大肩关节间隙、充分暴露术野,利于镜下操作,但是这些进口设备价格昂贵,适用范围较窄,限制了基层医院的使用,从而间接限制了此类微创手术的开展;另外很重要的一点,若手术时间过长,术后常伴有一过性臂丛神经损伤的术后并发症,增加了患者的痛苦,不利于患者术后快速康复。那么能否在非牵引状态下完成肩关节前下盂唇损伤修复术呢?本研究,采用非牵引技术对肩关节前下盂唇损伤进行修复,我们认为只要肩关节的间隙不影响置钉和监视置钉,手术即可完成。通过总结手术经验,我们认为:①常规的后方入路是必要的,这对非牵引状态下行前下盂唇修复术同样具有重要价值,除了检查盂肱关节外,最大意义是确立前方入路的位置;②后方入路观察难以看清盂唇水平面下的解剖结构,对前下方非骨性盂唇结构的剥离情况较难判断,同时也对前下结构的清理造成不利影响;③将后方入路观察转为前方入路观察,即

对盂肱关节的观察由平视变为俯视,大大提高了对盂唇剥离面积及深度判断的精确性,从而为修复计划提供有价值的参考;④避免了后方观察时肱骨头对视野的阻挡,且能够清楚观察到盂肱关节前下方结构合置钉位置(包括钉头与骨性边缘的精确距离);⑤昂贵的牵引装置在本研究随访的182例患者中并非必要的手术辅助工具,少数的助手辅助牵引用于患者体格矮小、关节间隙狭窄中的后方关节镜检查及置入5:00钟钉的情况下,而其他情况无需牵引;⑥术中侧卧位患肩后倾20°有利于扩大术野,手术助手改变患肢位置使前臂屈曲旋前有助于扩大前下方关节间隙;⑦随访的182例患者术后均未出现臂丛神经损伤的症状,充分证明了非牵引状态下行该类微创手术的安全性,避免了牵引装置造成上肢神经损伤、深静脉血栓的风险;⑧该技术的弊端是前方的2个通道之间距离较近,在掌握该技术的早期,2个通道之间偶会出现"打架"现象,该问题应引起术者在后期学习曲线中的充分重视;该技术下的术野较牵引技术下术野为小,对于合并关节僵直,滑膜异常增生等导致关节间隙异常狭窄的病例会延长手术时间,甚至需要先行松解再进行手术,术程助手辅助牵引。

综上所述,非牵引技术在训练伤致肩关节前下盂唇损伤肩关节镜修复术中的应用疗效满意。笔者认为,通过系统的手术学习及熟练的掌握,非牵引技术下行前下盂唇修复可以被医师广泛接受。由于术中无巨大的外力牵引从而保护了臂丛神经,血管等软组织,有利于患者快速康复,同时,普及这项技术可避免开展该类手术的医院因引进昂贵的牵引设备而浪费有限的医疗资源,值得在基层医院推广应用。

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