

双 Endobutton 钢板重建喙锁韧带联合 I 期肩锁韧带修复治疗 III 度以上肩锁关节脱位

胡文跃, 俞冲, 黄忠名, 韩雷
(杭州市萧山中医院, 浙江 杭州 311201)

【摘要】 目的: 探讨双 Endobutton 钢板联合 I 期肩锁韧带修复治疗 III 度以上肩锁关节脱位的临床疗效。方法: 自 2010 年 1 月至 2013 年 9 月, 手术治疗 56 例 Rockwood III 度以上肩锁关节脱位的患者, 其中男 20 例, 女 36 例; 年龄 32~52 岁, 平均 38.5 岁; 左侧 25 例, 右侧 31 例; 受伤至手术时间 3~14 d, 平均 7 d。术前均诊断为肩锁关节脱位 (Rockwood III 度以上), 手术采用双 Endobutton 钢板进行喙锁韧带重建, 同时行带线金属骨锚钉修复肩锁韧带。观察患者术后并发症情况, 并采用 Karlsson 评定标准及 Constant-Murley 评分进行肩关节功能评定。结果: 所有患者获得随访, 时间 8~24 个月, 平均 11 个月。术后 6 个月随访时根据 Karlsson 评定标准 A 级 42 例, B 级 13 例, C 级 1 例。Constant-Murley 肩关节功能总分由术前的 (42.80±5.43) 分提高至术后 6 个月的 (91.75±4.27) 分。术后 6 个月各项评分均优于术前 ($P < 0.05$), 其中优 48 例, 良 7 例, 差 1 例。所有患者随访期间均未出现肩关节粘连, 钢板螺钉松动、断裂。结论: 双 Endobutton 钢板重建喙锁韧带联合 I 期肩锁韧带修复治疗 III 度以上肩锁关节脱位早期临床疗效满意, 有利于肩关节功能早期恢复。

【关键词】 肩锁关节; 脱位; 韧带; 修复外科手术

DOI: 10.3969/j.issn.1003-0034.2015.06.004

Double Endobutto reconstituting coracoclavicular ligament combined with repairing acromioclavicular ligament at stage I for the treatment of acromioclavicular dislocation with Rockwood type III - V HU Wen-yue, YU Chong, HUANG Zhong-ming, and HAN Lei. Xiaoshan Hospital of TCM, Hangzhou 311201, Zhejiang, China

ABSTRACT Objective: To explore clinical efficacy of double Endobutto reconstituting coracoclavicular ligament combined with repairing acromioclavicular ligament in stage I in treating acromioclavicular dislocation with Rockwood type III - V. **Methods:** From January 2010 to September 2013, 56 patients with Rockwood type III - V acromioclavicular dislocation were treated by operation, including 20 males and 36 females, aged from 32 to 52 years old with an average of 38.5 years old. Twenty-five patients were on the left side and 31 cases on the right side. The time from injury to operation was from 3 to 14 days, averaged 7 days. All patients were diagnosed as acromioclavicular dislocation with Rockwood type III - V, and double Endobutto were used to reconstituting coracoclavicular ligament, line metal anchors were applied for repairing acromioclavicular ligament. Postoperative complications were observed, Karlsson and Constant-Murley evaluation standard were used to evaluate clinical effects. **Results:** All patients were followed up from 8 to 24 months with average of 11 months. According to Karlsson evaluation standard at 6 months after operation, 42 cases were grade A, 13 were grade B and 1 was grade C. Constant-Murley score were improved from (42.80±5.43) before operation to (91.75±4.27) at 6 months after operation. All items at 6 months after operation were better than that of preoperative items. Forty-eight patients got excellent results, 7 were moderate and only 1 with bad result. No shoulder joint adhesion, screw loosening or breakage were occurred during following up. **Conclusion:** Double Endobutto reconstituting coracoclavicular ligament combined with repairing acromioclavicular ligament in stage I for the treatment of acromioclavicular dislocation with Rockwood type III - V could obtain early satisfied clinical effects, and benefit for early recovery of shoulder joint function.

KEYWORDS Acromioclavicular joint; Dislocations; Ligaments; Reconstructive surgical procedures

Zhongguo Gu Shang/China J Orthop Trauma, 2015, 28(6): 500-503 www.zggszz.com

基金项目: 杭州市医疗卫生科研资助项目 (编号: 20130633B48)

Fund program: Hangzhou Foundation for Medical Research

(No. 20130633B48)

通讯作者: 韩雷 E-mail: hallen505@163.com

Corresponding author: HAN Lei E-mail: hallen505@163.com

肩锁关节脱位是临床常见的肩关节创伤性疾病, 尤其以中青年发病率较高, 占全身的骨折脱位的 4.40%~5.89%, 占肩关节脱位的 12%^[1]。目前临床上对于 Rockwood I 度及 II 度损伤行保守治疗的意见较为统一, 而对于 III 度损伤的临床治疗应行保守还

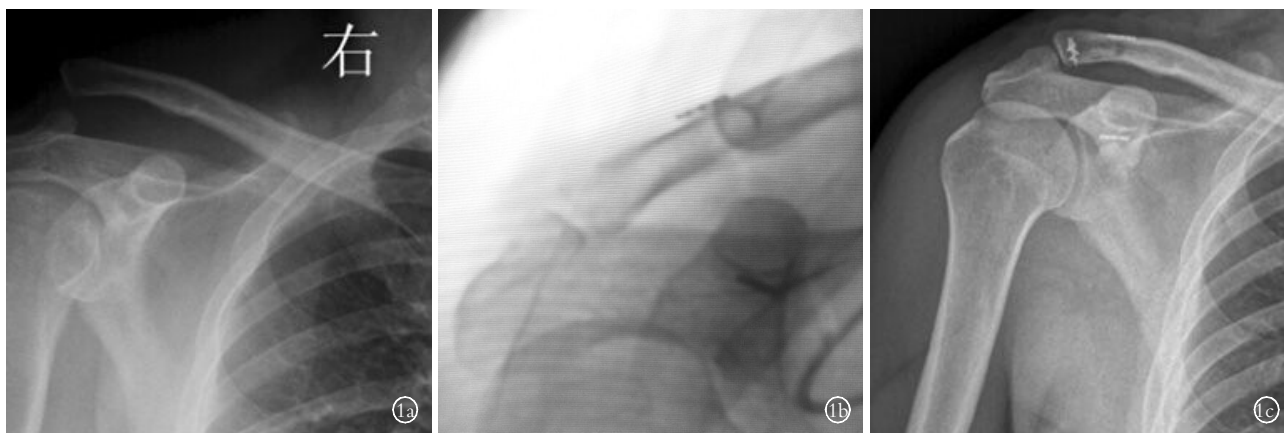


图 1 患者,女,41 岁,车祸伤致右侧肩锁关节脱位(Rockwood III 度) 1a. 术前应力位 X 线片 1b. 术中 C 形臂 X 线正位透视示喙锁间隙恢复 1c. 术后 3 d 正位 X 线片示肩锁关节复位良好

Fig.1 A 41-year-old female patient with right acromioclavicular joint dislocations caused by traffic accident(Rockwood type III) 1a. Preoperative stress radiograph 1b. Intraoperative C-shaped arm X-ray showed recovery of coracoclavicular distance 1c. Postoperative AP X-ray at 3 days showed good reduction of acromioclavicular joint

月。术后 6 个月随访时根据 Karlsson 评定标准优良 39 例,满意 22 例。Constant-Murley 肩关节功能总评分由术前的 (42.80±5.43) 分提高至术后 6 个月的 (91.75±4.27) 分。术后 6 个月各项评分均优于术前 (SPSS 19.0 统计软件, $P < 0.05$, 见表 1), 其中优 48 例, 良 7 例, 差 1 例。所有患者随访期间均未出现肩关节粘连, 术后 Zanca 位 X 线片复查均未发生钢板螺钉松动、断裂。典型病例见图 1。

4 讨论

双 Endobutton 重建喙锁韧带治疗肩锁关节脱位已广泛应用于临床, 早期随访均可获得满意疗效^[8]。但随着患者逐渐恢复正常的肩关节活动, 肩关节上举时锁骨的轴向选择造成环形攀在骨道口切割, 即所谓“雨刮器效应”, 造成环形攀的蠕变, 强度逐渐下降, 造成一定程度的复位丢失^[9]。通常术中处理肩锁关节残留的软骨盘, 后期随着肩锁关节周围微动幅度增加, 引起关节盘源性疼痛^[10]。生物力学拉力试验表明在肩锁关节脱位的损伤机制中, 肩锁韧带首先承受外界作用力, 当肩锁韧带完全断裂后喙锁韧带才开始承受作用力, 而两组韧带差距仅 50 N, 表明喙锁韧带并不如以往想象中作用强大, 肩锁韧带的稳定作用更应该得到充分认识^[11]。笔者前期采用双 Endobutton 重建喙锁韧带来治疗 III 度以上肩锁关节脱位, 未修复肩锁韧带, 通过中远期随访发现其喙锁间隙距离有不同程度增加, 提示半脱位甚至脱位, 相应的肩关节存有一定功能障碍。

目前临床上对于肩锁韧带修复的必要性并无统一标准。国内学者报道临床病例显示, 在肩锁关节囊和肩锁韧带完整情况下切断喙锁韧带, 锁骨并没有发生明显的活动, 同时切断肩锁韧带才引起肩锁关

节完全脱位^[12]。本文通过双 Endobutton 钢板重建喙锁韧带增加肩锁关节上下方的稳定性, 同时利用锚钉 I 期修复肩锁韧带以控制肩锁关节前后移位, 通过 Karlsson 评定均为优良, 肩关节功能 Constant-Murley 评分显示术后 6 个月各项评分均优于术前, 表明双 Endobutton 钢板重建喙锁韧带联合 I 期肩锁韧带修复治疗 III 度以上肩锁关节脱位能够获得良好的早期疗效。

由于 Endobutton 钢板并非为治疗肩锁关节脱位而设计, 在手术操作过程中受 Endobutton 钢板规格的限制, 在恢复重建的喙锁韧带长度上往往存在一定困难, 有失败的风险。如合并喙突骨折, 尤其是骨折线位于喙突基底部的患者, 该术式为禁忌证。同时喙突基底部直径需 >10 mm, 否则在喙突上钻直径 4.5 mm 的孔时容易出现手术失败, 因此喙突过于细小患者不适于该术式^[13]。Endobutton 技术联合 I 期肩锁韧带修复治疗肩锁关节脱位目前尚缺乏明确的远期疗效观察。本组病例及随访时间有限, 且缺乏病例对照研究, 远期疗效和并发症需进一步随访研究。

参考文献

- [1] Babhulkar A, Pawaskar A. Acromioclavicular joint dislocations[J]. Curr Rev Musculoskelet Med, 2014, 7(1): 33-39.
- [2] Beitzel K, Mazzocca AD, Bak KK, et al. ISAKOS upper extremity committee consensus statement on the need for diversification of the Rockwood classification for acromioclavicular joint injuries[J]. Arthroscopy, 2014, 30(2): 271-278.
- [3] Nissen CW, Chatterjee A. Type III acromioclavicular separation: results of a recent survey on its management[J]. Am J Orthop (Belle Mead NJ), 2007, 36(2): 89-93.
- [4] Steven S. Double Endobutton technique for repair of complete acromio-clavicular joint dislocations[J]. Techniques in Shoulder & Elbow Surgery, 2007, 8(4): 175-179.

- [5] Tauber M, Koller H, Hitzl W, et al. Dynamic radiologic evaluation of horizontal instability in acute acromioclavicular joint dislocations [J]. Am J Sports Med, 2010, 38(6): 1188-95.
- [6] Karlsson J, Arnarson H, Sigurjónsson K. Acromioclavicular dislocations treated by coracoacromial ligament transfer [J]. Arch Orthop Trauma Surg, 1986, 106(1): 8-11.
- [7] Constant CR, Murley AH. A clinical method of functional assessment of the shoulder [J]. Clin Orthop Relat Res, 1987, (214): 160-164.
- [8] 诸力, 杨贺杰, 赵万军, 等. Endobutton 袢钢板和锁骨钩钢板治疗新鲜肩锁关节脱位的病例对照研究 [J]. 中国骨伤, 2012, 25(2): 120-123.
Zhu L, Yang HJ, Zhao WJ, et al. Case-control study on Endobutton plate or clavicular hook plate for the repair of acromioclavicular joint dislocations [J]. Zhongguo Gu Shang/China J Orthop Trauma 2012, 25(2): 120-123. Chinese with abstract in English.
- [9] Ho WP, Chen JY, Shih CH. The surgical treatment of complete acromioclavicular joint dislocation [J]. Orthop Rev, 1988, 17(11): 1116-1120.
- [10] 颜瑞健, 陆建伟, 张春. 改良双 Endobutton 技术治疗 Tossy III 型肩锁关节脱位的远期疗效分析 [J]. 中国骨伤, 2014, 27(1): 7-12.
Yan RJ, Lu JW, Zhang C. Analysis on the long-term effects of modified double Endobutton technique in the treatment of Tossy type III acromioclavicular joint dislocations [J]. Zhongguo Gu Shang/China J Orthop Trauma, 2014, 27(1): 7-12. Chinese with abstract in English.
- [11] 于鹏, 宋晨昭, 孙培峰, 等. 肩锁关节韧带功能解剖和生物力学研究 [J]. 临床医学工程, 2011, 18(2): 189-190.
Yu P, Song CS, Sun PF, et al. The study of anatomy and biomechanics of acromioclavicular joint ligament [J]. Lin Chuang Yi Xue Gong Cheng, 2011, 18(2): 189-190. Chinese.
- [12] 阮国模, 苏忠良, 傅家兴, 等. 缝合喙锁韧带在锁骨钢板治疗肩锁关节脱位中的作用 [J]. 浙江临床医学, 2007, 9(2): 147-148.
Ruan GM, Su ZL, Fu JX, et al. Suturing coracoclavicular ligament acromioclavicular joint dislocation effect in the treatment of shoulder clavicle plate [J]. Zhe Jiang Lin Chuang Yi Xue, 2007, 9(2): 147-148. Chinese.
- [13] 闫楷忠, 沈伟中, 杨桢榕. 带袢钢板重建喙锁韧带与锁骨钩钢板治疗锁骨远端骨折的病例对照研究 [J]. 中国骨伤, 2011, 24(1): 78-81.
Yan KZ, Shen WZ, Yang ZR. Comparison of two methods for the treatment of distal clavicle fractures: endobutton and ethibond suture reconstituting coracoclavicular ligament vs clavicle hook plate [J]. Zhongguo Gu Shang/China J Orthop Trauma, 2011, 24(1): 78-81. Chinese with abstract in English.

(收稿日期: 2014-12-21 本文编辑: 李宜)

· 读者 · 作者 · 编者 ·

本刊关于一稿两投和一稿两用等现象的处理声明

文稿的一稿两投、一稿两用、抄袭、假署名、弄虚作假等现象属于科技领域的不正之风, 本刊历来对此加以谴责和制止。为防止类似现象的发生, 本刊一直严把投稿时的审核关, 要求每篇文章必须经作者单位主管学术的机构审核, 附单位推荐信(并注明资料属实、无一稿两投等事项)。希望引起广大作者的重视。为维护本刊的声誉和广大读者的利益, 凡核实属于一稿两投和一稿两用等现象者, 本刊将择期在杂志上提出批评, 刊出其作者姓名和单位, 并对该文的第一作者所撰写的一切文稿 2 年内拒绝在本刊发表, 同时通知相关杂志。欢迎广大读者监督。

《中国骨伤》杂志社