

## 喙锁螺钉加张力带治疗肩锁关节脱位疗效分析

陈栋<sup>1</sup> 杨迪生<sup>1</sup> 朱国庆<sup>2</sup>

(浙江大学医学院附属第二医院, 浙江 杭州 310009; 2. 绍兴市人民医院骨科)

**【摘要】** 目的 探讨喙锁拉力螺钉加张力带固定术式中青年和老年患者的疗效差异。方法 本组 Tossy 分类Ⅲ级肩锁关节脱位 43 例, 其中男 28 例, 女 15 例; 年龄 27~71 岁, 平均 42 岁。所有病例采用喙锁拉力螺钉结合张力带钢丝固定术治疗, 分为中青年组(小于 60 岁)24 例, 老年组(大于 60 岁)19 例, 平均随访 2.7 年, 两组结果进行比较, 并分别与 Phillips 和 Bragin 的结果进行比较。结果 在疼痛与肌力方面, 中青年组、老年组与 Phillips 的结果差异均无显著性意义。在畸形发生率上, 中青年组结果优于 Bragin 的结果, 差异有显著性意义( $P < 0.05$ )。老年组活动度与满意度两项的结果比中青年组及 Phillips 的结果差, 均有显著性意义( $P < 0.05$ )。结论 中青年患者采用本手术方式能取得较好的效果, 而老年患者并不适合该手术方式。

**【关键词】** 肩锁关节; 脱位; 固定装置, 内

**The analysis on the therapeutical effectiveness of coraco-clavicular screw and tension-band wire fixation in acromioclavicular dislocation** CHEN Dong, YANG Disheng, ZHU Guoqing. Department of Orthopaedics, the Second Affiliated Hospital of Medical College of Zhejiang University(Zhejiang Hangzhou, 310009, China)

**【Abstract】** **Objective** To research the different results of old and middle-young patients after the operation of coraco-clavicular screw and tension-hand wire fixation in Tossy Grade Ⅲ acromioclavicular dislocation. **Methods** In this study, there were forty three patients with acromioclavicular dislocation, Tossy grade Ⅲ. All patients were adopted the therapies of coraco-clavicular screw and tension-band wire fixation in the acromioclavicular dislocation. There were twenty-eight men and fifteen women with an average age of 42 years. They were divided into two groups: the middle and young age(less than sixty), 24 cases; and senile group(over sixty), 19 cases. The results were compared with the statistical result of Phillips and Bragin. All the patients had been followed up on an average of 2.7 years. **Results** In the aspect of pain and myodermia, there was no significant difference between the results of young and middle group and that of Phillips; in the developmental rate of deformity, the pain: 96% of the younger and 95% of the old were no or little pain. The range of movement: 92% of the younger and 69% of the old were normal or near normal. The power: 96% of the young and 84% of the old were normal or near normal. The complications: Residual deformity of loss of reduction was present in 10% of the old and there is no deformity of loss of reduction was present in the young group. There were 4% unsatisfactory in younger and 26% unsatisfactory in the old. The movement and satisfaction of the old were worse, compared with that of Phillips' in younger( $P < 0.05$ ). The young's incidence of deformity was lower, compared with the result of Bragin( $P < 0.05$ ). **Conclusion** This kind of surgical operation is suitable for younger patients, but not suitable for the old patients with the same disease.

**【Key words】** Acromioclavicular joint; Dislocation; Fixation devices, internal

肩锁关节脱位在临床上较为常见, 喙锁拉力螺钉结合张力带钢丝固定的术式已被报道有较好的临床疗效<sup>[1]</sup>。但是否对于所有 Tossy 分类Ⅲ级的肩锁关节脱位患者采用喙锁拉力螺钉结合张力带钢丝治

疗都有较好疗效? 对于哪些患者应当建议他们采取该手术治疗? 在观察手术病人疗效后, 我们认为喙锁拉力螺钉结合张力带钢丝固定的术式比较适合于中青年及活动多的病人, 现报告如下。

### 1 资料与方法

1.1 临床资料 自 1996 年 8 月 - 2001 年 8 月, 共有 43 例 Tossy 分类 III 级肩锁关节脱位病人在我院接受手术治疗。其中男 28 例, 女 15 例; 年龄 27 ~ 71 岁, 平均 42 岁, 中青年组 (小于 60 岁) 24 例, 老年组 (大于 60 岁) 19 例。所选均为急性损伤病例。致伤原因为直接暴力肩部受撞击者 34 例, 间接暴力手掌或肘部撑地者 9 例。

1.2 治疗方法 采用肩锁关节后侧至喙突前方的“∞”形切口, 分离胸大肌和三角肌间隙, 切断三角肌前 1/3 在锁骨上的肌止并向下翻开, 分离深层软组织, 即可显露喙突和锁骨之间的间隙。暴露肩锁关节, 清理关节内碎片及关节软骨盘后对合关节面, 在肩峰外侧平行打入 2 枚克氏针穿过关节面至锁骨内 3 ~ 4 cm, 在锁骨远端距关节面 2.5 cm 处与关节面平行钻孔穿过钢丝并绕过克氏针尾, 在关节面上方作“8”字扭紧, 克氏针尾向外侧折弯后剪短埋于三角肌附着处深部。从喙突向锁骨作垂直线, 在锁骨上交点处内 0.5 cm 向喙突后 1/3 钻孔, 将锁骨上钻孔扩大 1 mm 左右。然后拧入拉力螺钉, 使锁骨与喙突之间距离稍缩短约 0.5 cm, 以利于直接修复喙锁韧带。然后修复喙锁韧带、肩锁关节囊、肩锁韧带。

术后处理: 接受手术处理者, 手术后 3 d 可在前屈、外展、后伸各 45° 范围内活动肩关节, 术后 10 d 左右拆除缝线后可加大锻炼范围。术后 8 周可拆除肩锁关节处克氏针及张力带钢丝, 术后 12 周以后拆除拉力螺钉, 并继续锻炼使肩关节活动度恢复正常。

1.3 疗效评价方法 全部病例在术后随访 1 ~ 5 年, 平均 2.7 年。临床评价包括: 疼痛、活动度、肌力、患者满意率、畸形五个方面。采用 SPSS 10.0 软件的卡方检验法将两组病例作比较, 因为在畸形方面存在 T=0 的情况, 所以在这个方面用 Fisher 精确检验法来比较两组间的差异以及它们分别与 Bragin 等<sup>[2]</sup> (54 例) 结果的差异, 再用直接计算概率法将两组的前四项结果分别与 Phillips 等<sup>[3]</sup> (1172 例) 的百分率结果相比较。

### 2 结果

术后的疗效观察及组间比较见表 1。

2.1 疼痛 中青年组正常率为 96%, 有 1 例轻度疼痛; 老年组正常率为 95%, 有 1 例伴有轻度疼痛。两组间差异无显著性意义; 两组分别与 Phillips 报告手术组正常率为 93% 相比较: 中青年组  $P=0.492$ , 老年组  $P=0.612$ , 差异均无显著性意义。

表 1 疗效观察及组间对照分析

观察项目	中青年组 (n=24)		老年组 (n=19)		$\chi^2$	P
	异常例数	正常率	异常例数	正常率		
疼痛	1	96%	1	95%	0.029	0.865
活动度	2	92%	6	69%	4.168	0.041
肌力	1	96%	3	84%	1.698	0.193
畸形	0	100%	2	90%		0.189
患者满意度	1	96%	5	74%	4.333	0.037

2.2 活动度 中青组 2 例伴有轻微活动受限, 表现为肩关节不能充分上举, 正常率为 92%; 老年组有 6 例伴有不同程度活动受限, 其中 3 例上举不能大于 100°, 前屈、后伸功能尚可, 正常率为 69%。两组间比较  $\chi^2=4.168$ ,  $P=0.041$ , 差异有显著性意义; 两组分别与 Phillips 报告手术组正常率为 86% 相比较: 中青年组  $P=0.327$ , 差异无显著性意义; 老年组  $P=0.040$ , 差异有显著性意义。

2.3 肌力 中青组肌力正常率为 96%, 1 例肌力减退; 老年组肌力正常率 84%, 3 例肌力减退, 并且以上肌力减退者均为活动度恢复不良的病例。两组比较差异无显著性意义; 两组分别与 Phillips 等报告手术组正常率为 87% 相比较: 中青年组  $P=0.162$ , 老年组  $P=0.457$ , 差异均无显著性意义。

2.4 患者满意度 中青年组有 1 例患者基本满意, 患者满意率为 96%; 老年组有 2 例基本满意, 有 3 例表示不满意, 患者满意率为 74%。两组间比较  $\chi^2=4.333$ ,  $P=0.037$ , 差异有显著性意义; 而 Phillips 等认为患者满意率大于 90% 时手术才有意义, 两组结果分别与此参考值相比较: 中青年组  $P=0.292$ , 差异无显著性意义; 老年组  $P=0.035$ , 差异有显著性意义。

2.5 畸形 本组并发症主要为内固定拆除后肩锁关节脱位的复发, 中青年组无发生; 老年组有 2 例发生。两组间差异无显著性意义; 两组分别与 Bragin<sup>[2]</sup> 54 例病例中有 8 例发生的结果对比, 中青年组  $P=0.044$  (Fisher 精确检验法), 差异有显著性意义; 老年组  $\chi^2=0.219$ ,  $P=0.640$ , 差异无显著性意义。

### 3 讨论

III 度肩锁关节脱位由于肩锁关节极不稳定, 一般主张手术治疗。喙锁螺钉加张力带固定在喙锁和肩锁两处同时固定, 以三维固定有效地维持了肩锁关节的稳定, 并且能在术中直接修复断裂的喙锁韧带、肩锁关节囊和肩锁韧带, 为内固定拆除后韧带功能的恢复提供了重要的基础。但由于患者对恢复的要求不同以及是否能配合术后的功能锻炼, 有部分

病例并不适合于手术治疗<sup>[4]</sup>。

本术式能提供术后早期的坚强固定,中青年患者术后能够克服疼痛和不适感,进行早期的功能锻炼,因此具有较好的活动度;而老年患者由于对功能恢复的要求降低,使部分患者往往不愿意克服疼痛和不适感进行早期功能锻炼,从而影响活动度的恢复。

本组病例对结果的不满意主要来自于活动和功能的减退。它的主要原因有:老年组术后活动度恢复较差;老年患者对手术的心理承受力较差,在选择手术时,往往寄希望于手术能带来满意的效果。Phillips 等认为如果手术操作的结果的满意率小于 90%,那么其效果并不优于保守治疗,不能建议临床应用<sup>[3]</sup>。而老年组的不满意率高达 26%,两者比较有显著性差异。

本术式对于中青年患者有较好的疗效。老年组

的活动度及满意率较差,不适合本手术方式。而发生在保守治疗上的较高畸形发生率<sup>[3]</sup>对于老年患者而言,不但在心理上较容易接受肩部畸形,且畸形的发生并不影响疼痛、肌力、活动度<sup>[5]</sup>。因此老年人采用保守治疗可能更加合适。

#### 参考文献

- 1 林建平,刘成安. 张力带加 Bosworth 螺钉治疗重度肩锁关节脱位. 上海医科大学学报, 2000, 27(3): 229-230.
- 2 Bragin VB, Bezgodkov IuA. Comparative evaluation of the methods of treatment of dislocations of the clavicle. Vestn Khir Im II Grek, 2002, 161: 33-36.
- 3 Phillips AM, Smart C, Groom AFG. Acromioclavicular dislocation conservative or surgical therapy. Clin Orthop, 1998, 353: 10-17.
- 4 Bathis H, Tingart M, Bouillon B, et al. The status of therapy of acromioclavicular joint injury. Results of a survey of trauma surgery clinics in Germany. Unfallchirurg, 2001, 104: 955-960.
- 5 Fremerey RW, Lobenhoffer P, Ramacker K, et al. Acute acromioclavicular joint dislocation-operative or conservative therapy? Unfallchirurg, 2001, 104: 294-299.

(收稿: 2003-05-26 编辑: 李为农)

## 《骨与关节外科杂志·美国卷》2003 年第 85 卷第 8 期目录 Table of Contents for the Journal of Bone and Joint Surgery(Am.) Volume 85A, Number 8, 2003

- Shoulder Arthroplasty in Patients with a Prior Anterior Shoulder Dislocation: Results of a Multicenter Study. J. Matsoukis, et al. 1417-1424
- A Single Percutaneous Injection of Recombinant Human bone Morphogenetic protein-2 Accelerates Fracture Repair. Thomas A. Einhorn, et al. 1425-1435
- Effect of Achilles Tendon Lengthening on Neuropathic Plantar Ulcers: A Randomized Clinical Trial. Michael J. Mueller, et al. 1436-1445
- Effect of Intermittent Pneumatic Soft-Tissue Compression on Fracture-Healing in an Animal Model. Sang-Hyun Park, et al. 1446-1453
- Necrotizing Fasciitis; Clinical Presentation, Microbiology, and Determinants of Mortality. Chin-Ho Wong, et al. 1454-1460
- The Position of the Aorta Relative to the Spine: A Comparison of Patients with and without Idiopathic Scoliosis. Danie J. Sucato, et al. 1461-1469
- Comparison of Robotic-Assisted and Manual Implantation of a Primary Total Hip Replacement: A Prospective Study. Matthias Honl, et al. 1470-1478
- Arthroscopic Posterior Labral Repair and Capsular Shift for Traumatic Unidirectional Recurrent Posterior Subluxation of the Shoulder. Seung-Ho Kim, et al. 1479-1487
- Endoscopic Decompression of the Retrocalcanal Space. Zachary Leitze, et al. 1488-1496
- The Posterior branch of the Axillary Nerve: An Anatomic Study. Craig M Ball, et al. 1497-1501
- Nerve Lesions Associated with Limb-Lengthening. Monica Paschoal Nogueira, et al. 1502-1510
- Arthroscopic Anterior Stabilization of the Shoulder: Two to Six-Year follow-up. Seung-Ho Kim, et al. 1511-1518
- Radiographic Definition of Pelvic Osteolysis Following Total Hip Arthroplasty. Alexandra M. Claus, et al. 1519-1526
- Hydroxyapatite Coating of External Fixation Pins to Decrease Axial Deformity During Tibial Lengthening for Short Stature. Victor L. Caja, et al. 1527-1531
- Simultaneous bilateral, Staged Bilateral, and Unilateral Total Knee Arthroplasty: A Survival Analysis. Merrill A Ritter, et al. 1532-1537
- Heterotopic Ossification Around the Elbow following Burns in Children: Results After Excision. Alok Gaur, et al. 1538-1543
- Osteogenic Activity of the Fourteen Types of Human Bone Morphogenetic Proteins(BMPs). Hongwei Cheng, et al. 1544-1552
- Permanent Partial Cervical Spinal Cord Injury in a Professional Football Player Who Had Only Congenital Stenosis: A Case Report. Craig D. Brigham, et al. 1553-1556
- Bilateral Chronic Exertional Compartment Syndrome of the Dorsal Part of the Forearm: The Role of Magnetic Resonance Imaging in Diagnosis: A Case Report. P. Raj Kumar, et al. 1557-1559
- Ganglion of the Triangular Fibrocartilage Complex: A Report of Three Cases. Shinji Nishikawa, et al. 1560-1563
- Upper-Extremity Congenital Anomalies. Scott H. Kozin. 1564-1576
- Nonprosthetic Management of Proximal Humeral Fractures. Joseph P. Iannotti, et al. 1578-1593
- Financing Graduate Medical Education: Sorting Out the Confusion. Aaron S. Covey, et al. 1594-1604
- Who Did What?: (Mis)Perceptions About Authors' Contributions to Scientific Articles Based on Order of Authorship. Mohit Bhandari, et al. 1605-1609
- What's New in Spine Surgery. Jack E. Zigler, et al. 1626-1636