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# 可吸收棒与微型钛板在桡骨小头骨折治疗中的应用价值 *

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**摘要 目的：**探讨可吸收棒与微型钛板在桡骨小头骨折治疗中的临床效果和应用价值的研究。**方法：**回顾性选取 2014 年 1 月-2017 年 1 月于医院骨科诊治的桡骨小头骨折患者 58 例，根据不同的治疗方式分为两组，其中对照组 28 例患者采用微型钛板治疗；研究组 30 例患者采取可吸收棒治疗，患者术后均以石膏固定 4 周后，采用 X 射线复查恢复情况，统计两组患者的骨性愈合时间、肘关节 HHS 评分及并发症发生情况。**结果：**① 两组患者在 2 年内骨折均愈合，研究组患者的骨性愈合时间（13.86± 2.05）周明显少于对照组患者的骨性愈合时间（15.54± 2.71）周（P＜0.05）；② 治疗后 4 周，研究组患者的肘关节 HHS 评分为（95.32± 4.14）分明显高于对照组患者的（82.48± 5.27）分（P 均＜0.05）；③ 研究组患者中仅有 1 例发生骨延迟愈合，对照组患者中 2 例肘关节活动范围缺失、2 例骨折位移、1 例肘关节骨关节炎，并发症发生率分别为 3.33%和 17.85%存在显著差异（P 均＜0.05）。**结论：**桡骨小头骨折患者肘关节损伤严重，采用可吸收棒治疗能取得与微型钛板相似的治疗效果，并且患者的骨性愈合时间短、肘关节功能恢复较快，同时避免并发症的发生。

**关键词：**桡骨小头骨折；可吸收棒；微型钛板；应用价值

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# Comparison of the Application Value of Absorbable Rods and Miniature Titanium Plates in the Treatment of Radial Head Fractures*

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**ABSTRACT Objective:** To investigate the clinical effect and application value of absorbable rod and mini titanium plate in the treatment of radial head fractures. **Methods:** 58 patients with radial head fractures in the department of orthopedics of our hospital from January 2014 to January 2017 for diagnosis and treatment were retrospectively chosen. According to the different treatment methods, they were randomly divided into two groups. 28 patients in the control group were treated with micro - titanium plate. 30 patients in the study group were treated with absorbable rods. The patients were treated with plaster for 4 weeks. All patients were treated with plaster for 4 weeks, and X-ray was used for the review of the recovery situation. The bone healing time, elbow joint HHS score and the incidence of complications of the two groups of patients were taken for statistics. **Results:** ① The two groups of patients within 2 years of fracture were healed, and the bone healing time (13.86± 2.05) weeks in the study group was significantly lower than that in the control group (15.54± 2.71) weeks (P<0.05). ② 4 weeks after treatment, the HHS score of the elbow in the study group was (95.32± 4.14) points higher than that of the control group (82.48± 5.27) (P<0.05). ③ In the study group, only 1 case had delayed bone healing. In the control group, 2 cases of elbow joint were missing, 2 cases had fracture displacement, 1 case had osteoarthritis of the elbow, the complication rate was 3.33% and 17.85% There were significant differences (P<0.05). **Conclusion:** The treatment of the elbow joint in the patients with radial head fractures is serious, and the treatment with the absorbable rod can achieve similar treatment effect with the mini titanium plate, and the bone healing time is short, the function of the elbow joint is restored quickly, and the occurrence of the complication is avoided.

**Key words:** Radial head fracture; Absorbable rod; Micro titanium plate; Application value

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## 前言

桡骨小头骨折是成年人常见的肘部损伤骨折，发生率占肘部骨折的 17～19%，占全身骨折的 0.8%，其中有 1/3 的患者合并关节其他部位的骨折[1]。临床采用 Mason 分型法将桡骨小头骨折进行分类，Mason Ⅰ型骨折患者通常不发生骨折转移，情况较稳定，采用非手术治疗即可有理想的疗效，而 Mason Ⅱ型和Ⅲ型的桡骨小头骨折的治疗方法和效果仍存在争议，一旦骨折复位不当或出现畸形愈合，导致不同程度的前臂旋转功能障碍[2,3]。对于不稳定的桡骨小头骨折单纯的依靠外用固定器复位

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很难维持位置的稳定,而传统的将桡骨小头切除也是无法前臂正常的旋转和稳定性。骨科专家认为[5],切开复位内固定法是治疗这种骨折的有效方法,即可稳定骨折部位,又可保证患者肘关节的功能恢复。目前,临床常用的内固定物主要有微型钛板和可吸收棒,两种方式各有优势,本研究选择 58 例桡骨小头骨折患者分别采用微型钛板和可吸收棒进行内固定治疗,比较者两种内固定材料的临床治疗效果及应用价值。

## 1 对象与方法

### 1.1 研究对象

回顾性选出 2014 年 1 月 -2017 年 1 月于医院骨科诊治的 58 例桡骨小头骨折患者为研究样本,其中男 31 例,女 27 例,年龄 22～64 岁,平均年龄(43.18± 6.75)岁;受伤至治疗时间 2～48h,平均(20.46± 3.95)h;骨折患侧:右侧 37 例、左侧 21 例;Mason 分型:Ⅱ型 45 例、Ⅲ型 13 例;按治疗方式分为对照组与研究组,其中对照组 28 例患者采用微型钛板治疗;研究组 30 例患者采取可吸收棒治疗。纳入标准[5]:① 患者临床症状、体征及经 CT、X-ray 等影像学检查确诊为桡骨小头骨折; ② 患者属于新鲜闭合性骨折;③ 患者骨折类型均属于 MasonⅡ型或Ⅲ型;④ 患者符合治疗条件,依从性良好,没有手术禁忌症。排除标准[6]:① 属于开放性骨折患者;② 合并神经血管系统或肘关节损伤的患者;③ 患有其他原发性骨病患者;④ 意识障碍无法配合治疗者。患者及家属同意本次研究,并签署手术知情同意书,并经过我院伦理委员会批准。

### 1.2 治疗方法

两组患者均卧位进行全麻或臂丛神经阻滞麻醉后,前臂旋前,避免损伤桡神经深支,止血带充气止血;对照组采用微型钛板内固定治疗, 手术路径由患肢肘肌与外侧腕肌的间隙进入,直至桡骨上端位置。切口环状韧带和旋后肌,使桡骨小头和桡骨颈充分暴露,Ⅱ型患者在直视下进行复位,以巾钳和复位器将临时固定骨折部位, 在桡骨近端用微型钛板进行系统固定;Ⅲ型患者现将碎骨取出,在体外按解剖学结构重组,以克氏针固定后将压缩性骨折复位,选择适宜长度的微型钛板置于桡骨小头安全处,钻孔,钉入固定钉,而后活动肘关节,确认满意后,放置引流管,逐层缝合,将石膏固定[7]。研究组患者采用可吸收棒治疗,术前准备及手术路径同对照组,对桡骨断端进行复位修复,固定后将前臂小范围转动,根据桡骨活动度确定可吸收棒的位置和方向,C 臂透视确认桡骨小头复位良好, 克氏针钻孔进入,将可吸收棒修剪至适宜长度后置入,使其外端低于关节面,检查桡骨小头活动度及可吸收棒牢固程度,冲洗伤口,修复韧带和关节囊,缝合,石膏在前臂中央固定[8]。患者均在术后 24 好预防性应用抗生素,常规换药,48 h 后拔出引流管,4 周后拆除石膏,进行肘关节功能恢复训练。

### 1.3 观察指标

根据影响学检查结果比较两组患者的骨性愈合时间,并采用肘关节 HHS 评分对患者的肘关节功能进行评价, 内容包含疼痛、功能、肌肉力量等方面,100 分为满分,60 分为及格,分数越高证明肘关节功能恢复越好;同时将患者出现的肘关节活动范围缺失、骨折位移、肘关节骨关节炎等并发症情况记录分析。

### 1.4 统计学分析

采用统计学 SPSS22.0 软件对桡骨小头骨折患者的资料进行分析,其中患者的骨性愈合时间、肘关节 HHS 评分等计量数据采用($\bar{x}$± s)表达,组间 t 检验;患者的并发症发生情况采用(%)表达,组间 $x^2$ 检验,P＜0.05 显示组件比较差异有统计学意义。

## 2 结果

### 2.1 患者的治疗效果比较

两组患者经过治疗后,均在 2 年骨折愈合,其中研究组患者的骨性愈合时间较早,肘关节 HHS 评分较高,比对照组患者的治疗效果具有明显优势(P＜0.05),见表 1。

表 1 两组患者的临床效果比较($\bar{x}$± s)

Table 1 Comparison of clinical effect between the two groups of patients($\bar{x}$± s)

| Groups | Cases | Bone healing time(W) | Elbow joint HHS score |
|---|---|---|---|
| Control group | 28 | 15.54± 2.71 | 82.48± 5.27 |
| Study group | 30 | 13.86± 2.05 | 95.32± 4.14 |
| t value | | 2.371 | 3.046 |
| P value | | ＜0.05 | ＜0.05 |

### 2.2 患者术后并发症发生情况比较

两组患者在术后的并发症发生情况存现明显差异,研究组患者的发生率明显低于对照组患者(P＜0.05),见表 2。

表 2 两组患者的并发症情况比较(%)

Table 2 Comparison of the complications of the two groups of patients (%)

| Groups | Cases | Bone delayed healing | Elbow joint were missing | Fracture displacement | Osteoarthritis of the elbow | Incidence rate |
|---|---|---|---|---|---|---|
| Control group | 28 | 0(0) | 2(7.14) | 2(7.14) | 1(3.57) | 17.85 |
| Study group | 30 | 1(3.33) | 0(0) | 0(0) | 0(0) | 3.33 |
| $x^2$ value | | 2.647 | 3.568 | 3.568 | 2.853 | 6.934 |
| P value | | ＜0.05 | ＜0.05 | ＞0.05 | ＞0.05 | ＜0.05 |

## 3 讨论

据调查,桡骨小头骨折的发病率逐年升高,主要受到暴力或车祸所致,由于桡骨小头位于肘关节的重要活动位置,发生骨折后对患者的活动能力严重受限, 甚至影响日常生活质量[9-12]。桡骨是前臂的双骨之一,是肱桡关节承受负荷及稳定关节的重要部位,关于桡骨小头骨折的临床治疗尚未有统一的标准和定论,医学界认为非手术治疗创伤性小,而且不影响患肢的局部血运、肘关节的稳定性及旋转度,然而对于严重的粉碎型桡骨小头骨折患者非手术治疗并不奏效,传统治疗是采用桡骨小头切除术,虽然这种方式有一定的近期效果,但是在术后患者恢复期长、引发并发症的风险高[13-17]。研究显示[18],患者切除桡骨小头术后发生肘外翻、肘关节强直的机率是为切除患者的2.3 倍,显然不利于患者的日常生活。随着医疗水平的发展,医疗技术的不断革新, 内固定技术在骨折患者的逐渐开展应用,并受到了医学专家和患者的认可[19-22]。近年来,骨科用内固定材料为满足临床需求也推陈出新,目前常用的主要是克氏钉和对应的微型钛板、可吸收棒或螺钉等等[23],在固定时需要利用桡骨小头的安全区域,若超出此范围,固定物需埋头处理,避免关节部位疼痛和活动受限,但却容易导致骨块碎裂,固定失败,临床研究显示,选择微型钛板与可吸收棒进行固定能够最大限度的将肘关节解剖结构恢复,保证肘关节的活动功能[24-26]。本次研究, 选取这两者内固定材料对桡骨小头骨折患者进行治疗,结果发现,两组患者均可在标准时间内骨折愈合,但是采用可吸收棒的研究组患者在骨性愈合时间明显早于采用微型钛板的对照组患者, 并且肘关节 HHS 评分显示研究组患者也明显高于对照组,同时研究组患者的术后并发症发生率为 3.33%明显低于对照组的 17.85%。这应该是因为可吸收棒属于高分子聚合物,可在机内吸收、代谢,对人体没有毒副作用,其强度大,与人骨骼弹性接近,便于拉伸、弯曲、剪切,对骨折固定牢靠;同时可吸收棒在骨性自发膨胀,避免患者发生骨质疏松,减少对骨刺激,这是金属类固定物所不及的优势;吸收棒最主要的特点是可在体内自行分解,不需要二次取出,减轻患者痛苦和心理负担[27-30]。

综上所述,桡骨小头骨折患者采用可吸收棒内固定治疗能够缩短骨性愈合时间,提高肘关节功能的恢复,与微型钛板相比,术后并发症发生率较低,具有显著的临床应用价值。

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