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经伤椎单节段固定与跨伤椎短节段固定治疗胸腰椎骨折的临床疗效比较研究

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摘要 目的:研究经伤椎单节段固定和跨伤椎短节段固定对于胸腰椎骨折进行治疗的临床疗效。**方法:**从2011年6月至2014年6月,选择我院100例胸腰椎骨折患者作为研究对象。以数字法随机分为观察组50例以及对照组50例。观察组患者行经伤椎单节段固定,对照组患者行跨伤椎短节段固定,对比观察两组的临床效果。**结果:**观察组患者术中出血量及手术时间均明显低于对照组,差异均具有统计学意义($P < 0.05$)。对两组患者手术前后的影像学检测结果进行比较,手术前后两组的压缩率以及Cobb角比较均无显著差异($P > 0.05$),对所有患者进行末次随访时发现,观察组的压缩率明显高于对照组,Cobb角明显低于对照组,差异均具有统计学意义($P < 0.05$)。治疗前两组在社会功能,情感职能以及躯体疼痛评分比较上均无统计学差异($P > 0.05$),治疗后两组以上评分较治疗前均明显升高,并且观察组显著高于对照组,差异均具有统计学意义($P < 0.05$)。**结论:**使用经伤椎单节段固定较跨伤椎短节段固定方式能更好地恢复患者Cobb角度,对于预防手术之后矫正度的丢失性具有明显优势,且其有利于术后患者生活质量的提高,值得临床推荐使用。

关键词:经伤椎单节段固定;跨伤椎短节段固定;胸腰椎骨折;临床疗效

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Comparison of Injured Vertebra Single Segmental Fixation and Across Injured Vertebra Short Segmental Fixation for Thoracic and Lumbar Fractures

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ABSTRACT Objective: To study the clinical effect of injured vertebra single segmental fixation and across injured vertebra short segmental fixation in the treatment of thoracic and lumbar fractures. **Methods:** A total of 100 patients with thoracic and lumbar fractures, who were treated in People's Hospital of Qintang District of Guigang from June 2011 to June 2014, were randomly divided into observation group ($n=50$) and control group ($n=50$). The observation group was treated with injured vertebra single segmental fixation, while the control group, with across injured vertebra short segmental fixation. Then the clinical effects of two groups were compared. **Results:** The intraoperative bleeding amount and operation time of observation group were significantly less than those of control group, the differences were statistically significant (all $P < 0.05$). There was no significant difference in the compression ratio and Cobb angle of two groups before and after operation ($P > 0.05$), but all the patients were followed up for the last time; the results showed that the compression ratio of the observation group was significantly higher than that of the control group, while the Cobb angle of the observation group, lower than that of the control group, the difference was statistically significant ($P < 0.05$). There was no significant difference in the social function, emotional function and body pain score of the two groups before treatment ($P > 0.05$), but after treatment, the above indexes score of the two groups significantly increased, and the above indexes score of the observation group was significantly higher than those of the control group, the difference was statistically significant ($P < 0.05$). **Conclusion:** Using injured vertebra single segmental fixation can restore the Cobb angle of patients, better than using across injured vertebra short segmental fixation in the patients with thoracic and lumbar fractures, with the advantages of preventing the loss of postoperative correction and improving the life quality of patients, which is worthy of clinical application.

Key words: Injured vertebra single segmental fixation; Across injured vertebra short segment fixation; Thoracic and lumbar fractures; Clinical effect

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前言

胸腰椎骨折是指由于外力造成胸腰椎骨质连续性的破坏,是临床上常见的损伤^[1,2],病人常合并神经功能损伤,且由于致伤因素基本为高能损伤,亦常合并其它脏器损伤,这为治疗带来了极大的困难和挑战。目前,临床上对于胸腰椎骨折主要采用跨伤椎短节段固定,但术后内固定失效、矫正度丢失等难以避免^[3]。近年来,有报道显示经伤椎节段固定治疗胸腰椎骨折具有很好的临床效果^[4-6]。本文特此对经伤椎单节段固定和跨伤椎短节段固定对于胸腰椎骨折进行治疗的临床疗效进行研究对比,现报道如下。

1 资料和方法

1.1 临床资料

选择我院 2011 年 6 月至 2014 年 6 月期间,入院进行治疗的胸腰椎骨折的患者 100 例进行研究。根据影像学以及临床诊断所有患者均确诊为胸腰椎骨折。男 54 例,女 46 例。年龄在 25-75 岁,平均年龄为(45.3±3.2)岁。以数字法将其随机分为观察组和对照组,每组各 50 例。观察组男 26 例,女 24 例。年龄在 27-75 岁,平均年龄为(46.2±3.5)岁。对照组男 28 例,女 22 例。年龄在 25-72 岁,平均年龄为(45.1±3.0)岁。两组患者在性别、年龄上比较,差异均无统计学意义($P>0.05$),具有可比性。

1.2 研究方法

所有患者行全身麻醉处理,患者仰卧位。在患者胸腰椎后凸出点放置一个充气腰桥以便行闭合复位操作。15-20 分钟之后使用 C 形臂 X 线机进行透视,判断骨折椎体的准确区域。之后让患者处于俯卧位,在其胸骨柄处以及骨盆位置放置软枕垫起,让腹部处于悬空状态。取其后面正中位置行切口操作:对照组将伤椎以及靠近上下部位正常的椎体上较小的关节突出以

及横向突出根部位置显露出来。对患者的韧带,伤椎部位椎板以及关节突具体受损情况进行仔细检测,使用 C 形臂 X 线机进行牵引,行椎弓根置钉,上棒,复位以及固定操作。观察组患者仅仅将伤椎以及终板完整一方的靠近正常的椎体部位显露出即可。胸椎置钉操作时,使用 Roy-Camille 方式;腰椎选取人字嵴顶点方式放入钉子。两组患者都在手术之后一年-18 个月内将固定装置取出。在手术后患者应该卧床休养,并实施防感染,激素以及对胃黏膜进行保护的有效治疗,在患者伤口处放一引流管。在 2-3 天之内将引流管拔出,并对患者拍 X 线进行检测。检测结果若显示内固定的状态良好,则能够使用支具缓慢下床。

1.3 观察指标

对两组患者手术前后进行影像学检测,所有患者在手术之前进行 X 线片以及 CT 检测,对患者受伤部位的粉碎程度进行观察。在手术前后对患者相关指标进行测量,包括伤椎的前缘部位高度,伤椎的头侧以及尾侧正常椎体的前缘高度以及矢状面 Cobb 角。对患者的伤椎椎体前缘部位的高度比进行计算,即压缩率=伤椎的前缘部位高度×2/(伤椎的头侧正常椎体的前缘高度+伤椎尾侧正常椎体的前缘高度)^[7]并对手术过程中出血量以及手术全程操作时间进行测量。使用生活质量评分量表(SF-36)对患者生活情况进行评估。满分为 100 分^[8]。

1.4 统计学方法

采用 SPSS13.0 统计软件分析,数据比较采用 χ^2 检验,计量数据以($\bar{x} \pm s$)表示,实施 t 检验。 $P<0.05$ 为差异有统计学意义。

2 结果

2.1 两组患者手术中出血量及手术时间比较

观察组患者术中出血量及手术时间均明显低于对照组,差异具有统计学意义($P<0.05$)。见表 1:

表 1 两组患者术中出血量及手术时间比较($\bar{x} \pm s$)

Table 1 Comparison of intraoperative bleeding amount and operation time between two groups($\bar{x} \pm s$)

组名 Groups	n	术中出血量(ml) Intraoperative bleeding amount(ml)	手术时间(min) Operation time(min)
观察组 Observation group	50	250.4±41.0	90.2±35.4
对照组 Control group	50	267.5±32.8	104.5±22.6
t	-	2.303	2.408
P	-	0.023	0.018

2.2 两组患者的影像学检测结果比较

两组患者手术前后的压缩率以及 Cobb 角进行比较,均无显著差异($P>0.05$)。对所有患者进行末次随访时发现,观察组

的压缩率明显高于对照组,Cobb 角明显低于对照组,差异均具有统计学意义($P<0.05$),见表 2。

表 2 两组患者的影像学检测结果比较($\bar{x} \pm s$)

Table 2 Comparison of imaging detection results between two groups($\bar{x} \pm s$)

组名 Groups	n	压缩率(%)Compression ratio(%)			Cobb 角(°)Cobb angle(°)		
		手术前 Preoperative	手术后 Postoperative	末次随访 Last follow-up	手术前 Preoperative	手术后 Postoperative	末次随访 Last follow-up
观察组 Observation group	50	58.8±13.9	87.6±10.3	85.7±11.8	19.4±5.9	6.2±5.2	7.7±5.2
对照组 Control group	50	57.7±15.4	86.4±9.4	80.6±10.4	20.7±6.7	5.8±7.8	11.2±7.5
t	-	0.375	0.609	2.293	1.030	0.302	2.712
P	-	0.709	0.544	0.024	0.306	0.764	0.008

2.3 两组患者的生活质量评分

通过 SF-36 评分发现,治疗前两组在社会功能,情感职能以及躯体疼痛评分比较上均无统计学差异($P>0.05$),治疗后两

组以上评分较治疗前均明显升高,并且观察组显著高于对照组,差异具有统计学意义($P<0.05$)。见下表 3;

表 3 两组患者的生活质量评分比较($\bar{x} \pm s$)

Table 3 Comparison of life quality scores between two groups($\bar{x} \pm s$)

组名 Groups	n	时间 Times	社会功能 Social function	情感职能 Emotional function	躯体疼痛 Body pain
观察组 Observation group	50	手术前 Preoperative	64.4 $\pm$ 5.0* [#]	64.8 $\pm$ 4.8* [#]	50.3 $\pm$ 3.9* [#]
		手术后 Postoperative	87.5 $\pm$ 5.8	89.5 $\pm$ 6.2	90.3 $\pm$ 2.6
对照组 Control group	50	手术前 Preoperative	65.5 $\pm$ 4.7 [#]	64.2 $\pm$ 5.2 [#]	51.4 $\pm$ 3.2 [#]
		手术后 Postoperative	71.3 $\pm$ 4.7	70.3 $\pm$ 7.5	75.6 $\pm$ 3.8
t	-	-	15.345	13.952	22.575
P	-	-	0.000	0.000	0.000

注:与对照组治疗前比,* $P>0.05$;与治疗前比,# $P<0.05$ 。

Notes: Compared with control group before operation, * $P>0.05$; Compared with after operation, # $P<0.05$.

3 讨论

胸腰椎骨折常在脊柱损伤情况中出现,对于胸腰部发生的不稳定性骨折现象,临床进行手术操作能够对脊柱进行有效稳定^[9,11]。除此之外,还可将患者椎管中的压迫予以解除,这一方式在临床上已经得到较多学者的认可^[12]。现如今使用最多的手术方式就是跨伤椎短节段固定^[13]。临床对治疗过的患者进行随访发现,此术式对于胸腰椎骨折患者而言,在较短时期内效果较好,患者满意度较高。但是在治疗后较长时间会发生断钉,断棒以及丢失矫正度情况,甚至会引发畸形。

在医学界,对于怎样防止术后丢失矫正度,一直存有较大的争议^[14]。胸腰椎骨发生骨折之后尽管将其进行复位撑开之后能够使得患者椎体的高度恢复,然而椎体内部的骨小梁支架结构不能一起得到恢复。另外,由于骨折椎体的上下部位椎间盘发生损伤,破坏了前中柱的统一性。有学者认为对胸腰椎骨折患者实施复位以及内固定操作时,进行椎体内部的植骨重建,另外进行较为有效的植骨融合固定操作,对于预防矫正度的丢失具有重要意义^[15,16]。但是也有人认为此方式无法避免内固定效果不佳以及患者椎体高度发生丢失。本研究发现,观察组患者术中出血量及手术时间均明显低于对照组,表明经伤椎单节段固定对患者创伤更小手术更加简便快捷。而两组患者手术前后压缩率以及 Cobb 角无显著差异,但在对所有患者最后末次随访时发现,观察组的压缩率明显高于对照组,Cobb 角明显低于对照组,与相关报道一致^[17,18]。表明经伤椎单节段固定术后更为稳定,在防治矫正度的丢失上优于跨伤椎短节段固定。其原因主要是经伤椎单节段固定利于维持椎骨骨折复位,能够更好的降低跨伤椎短节段固定引起的悬挂效应和四边形效应,术后矫正度不宜丢失^[19,20]。最后本文研究还发现,对两组患者手术之后的生活质量评分进行比较,观察组的社会功能,情感职能以及躯体疼痛评分均明显优于对照组。进一步表明,经实施伤椎单节段固定患者术后生活质量优于跨伤椎短节段固定患者。同时也表明骨折复位和维持手术后椎体稳定性对于胸腰椎骨折患者非常重要,临床工作者应予以重视。

综上所述,使用经伤椎单节段固定较跨伤椎短节段固定方

式能更好地恢复患者 Cobb 角度,对于预防手术之后矫正度的丢失性具有明显优势,且其有利于术后患者生活质量的提高,值得临床推荐使用。

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