doi: 10.13241/j.cnki.pmb.2017.04.025

经皮穿刺椎弓根椎体成形术治疗胸腰椎椎体转移肿瘤的临床疗效 *

王宇强[1] 贾永森[2] 赵勇军[1] 李 鹤[1] 金海超[1] 苏雪涛[1]

（1 武警后勤学院附属医院骨科 天津 100027；2 河北省唐山市理工大学中医学院 河北 唐山 063000）

摘要 目的：进一步探讨经皮穿刺椎弓根途径椎体成形术与传统保守治疗方法的临床比较差异，从而为临床相关实践提供借鉴和参考依据。**方法：**2014 年 12 月至 2015 年 5 月医院临床收治的胸腰椎椎体转移肿瘤患者共计 88 例，根据治疗方法分成研究组（经皮穿刺椎弓根途径椎体成形术组）和对照组（传统保守治疗方法组），每组患者 44 例。观察和比较两组患者实施不同治疗后的临床满意度。**结果：**研究组患者手术 1d、1 个月、3 个月、6 个月和 1 年后的临床满意度均显著的高于对照组，且组间比较差异均有统计学意义（P<0.05）。**结论：**经皮穿刺椎弓根途径椎体成形术治疗胸腰椎椎体转移肿瘤的临床综合效果显著，与传统保守治疗方法相比较可有效改善和提高患者的生活质量。

关键词：经皮穿刺椎弓根途径椎体成形术；传统保守治疗；胸腰椎椎体转移肿瘤；临床疗效

中图分类号：R687; R738.1 **文献标识码：**A **文章编号：**1673-6273（2017）04-699-03

Comparison of the Clinical Efficacy of Percutaneous Vertebroplasty Pedicle Way and Traditional Conservative Method on the Treatment of Thoracic Vertebral Metastases*

WANG Yu-qiang[1], JIA Yong-sen[2], ZHAO Yong-jun[1], LI He[1], JIN Hai-chao[1], SU Xue-tao[1]

(1 Department of Orthopaedics, Hospital affiliated to Armed Police Logistics Institute, Tianjin, 100027, China;

2 Institute of Traditional Chinese Medicine, Tangshan Polytechnic University, Tangshan, Hebei, 063000, China)

ABSTRACT Objective: To further explore the clinical differences of percutaneous vertebroplasty pedicle method and traditional conservative method on the treatment of thoracic vertebral metastases, so as to provide references for clinical related practice. **Methods:** 88 cases with thoracolumbar vertebral metastasis cancer patients admitted to the hospital from December 2012 to May 2013 were chosen. According to the different treatment methods, the patients were divided into the study group those who were treated with percutaneous pedicle pathway vertebroplasty and the control group those who were treated with traditional conservative method, with 44 patients in each group. Then the clinical satisfaction levels of the two groups after treatment were observed and compared. **Results:** The clinical satisfaction levels of the study group after surgery for one day, one month, three months, six months and one year were significantly higher than those of the control group, and the differences were statistically significant (P<0.05). **Conclusions:** In the practice of the treatment process for the thoracic and lumbar vertebral metastasis, the clinical comprehensive effect of percutaneous pedicle vertebroplasty has shown that it can effectively improve the treatment and improve patient quality of life compared with the traditional conservatism. It is the ideal way for the clinical treatment of thoracolumbar spinal metastatic tumors.

Key words: Percutaneous pedicle vertebroplasty way; Traditional conservative treatment; Thoracolumbar spinal metastatic tumor; Clinical efficacy

Chinese Library Classification (CLC): R687; R738.1 Document code: A

Article ID: 1673-6273（2017）04-699-03

前言

临床研究和报道结果显示[1,2]：脊椎骨属于临床转移瘤最为常见的累及部位。临床统计数据资料显示[3,4]：脊椎骨转移瘤占骨转移瘤的比例已经超过了 5%，可达到 10%以上。相关患者的临床表现以疼痛为主，显著降低患者的生活质量，严重会危及其生命健康[5,6]。鉴于此，本文以胸腰椎椎体转移肿瘤的临床治疗为研究对象，进一步探讨经皮穿刺椎弓根途径椎体成形术与传统保守治疗方法的临床疗效的差异，为临床相关实践提供借鉴和参考，报道如下。

1 资料与方法

1.1 一般资料

本文选取的病例均为 2014 年 12 月至 2015 年 5 月医院临床收治的胸腰椎椎体转移肿瘤患者，病例总数共计 88 例。88 例患者中男性 48 例，女性 40 例，年龄 44~66 岁，平均年龄（55.84± 10.23）岁，发病部位分布为胸椎患者 30 例，腰椎患者 58 例。根据不同的临床疗法，所有患者分成了研究组和对照组

* 基金项目：河北省高等学校科学技术研究项目（QN2016013）

作者简介：王宇强（1978-），主治医师，硕士，研究方向：脊柱学等

（收稿日期：2016-09-11 接受日期：2016-09-29）

(各 44 例),两组基线资料差异无意义(表 1)。

表 1 两组基线比较一览表 [n, $\bar{x}\pm$ s]

Table 1 Comparison of baseline information of two groups [n, $\bar{x}\pm$ s]

Groups	N	F	M	Average age (yrs)	Thoracic vertebra patient	Vertebra lumbalis patient
Study group	44	23	21	55.99± 10.55	14	30
Control group	44	25	19	55.44± 10.11	16	28
Value	——	0.1833	0.2497		0.2023	
P	——	0.6685	0.8034		0.6529	

1.2 治疗方案

1.2.1 **对照组** 本组患者给予常规传统的保守治疗方法进行治疗,具体方案为采用局部放疗及化疗相结合的综合治疗措施:给予患者放疗剂量为 300cGy 每日,连续放疗 10 d,给予患者化疗的方案为帕米磷酸盐 + 地塞米松,剂量分别为 Q4W 和 16 mg/d,同时给予患者其他临床支持性治疗措施和方法。

1.2.2 **研究组** 本组患者均给予经皮穿刺椎弓根途径椎体成形术进行治疗,同时在患者接受手术治疗后的 3~4 d,给予患者放射治疗,放疗剂量为 2~3 Gy/ 次,患者给予的总剂量为 35~45 Gy,治疗时间为 3~4 周。

1.3 观察指标

本次研究以两组患者实施不同治疗后的患者临床满意度为观察指标。

1.4 统计学方法

研究数据采用 SPSS19.0 软件包进行统计学分析,计量资料用 $\bar{x}\pm$ s 表示,行 t 检验;计数资料以(%)描述,用 X^2 检验,以 P< 0.05 表示差异具有统计学意义。

2 结果

两组患者实施不同治疗后的患者临床满意度情况比较结果如下:研究组患者手术 1d、1 个月、3 个月、6 个月和 1 年后的临床满意度均显著的高于对照组,差异显著(P< 0.05,表 2)。

表 2 两组患者临床满意度情况比较 [n,n(%)]

Table 2 Comparison of clinical satisfactory levels between the two groups [n,n(%)]

Groups	N	1 d after surgery	1 month after surgery	3 months after surgery	6 months after surgery	1 year after surgery
Study group	44	39 (88.64)	34 (77.27)	28 (63.64)	28 (63.64)	28 (63.64)
Control group	44	0 (0.00)	14 (1.82)	10 (22.73)	14 (31.82)	10 (22.73)
χ^2 value	——	70.0408	18.3333	15.0063	8.9275	15.0063
P value	——	0.0000	0.0000	0.0001	0.0028	0.0001

3 讨论

临床病例资料显示[7,8]:脊椎骨转移瘤的临床发病较为常见,较其他转移瘤的发生概率相对较高。从相关患者的临床 X 线表现上分析,患者的 X 线表现特点主要为溶骨性破坏。从骨转移瘤的分布特点上分析,患者的胸背部、腰背部及项背部等位置的骨转移瘤发生率相对较高,因此患者疼痛区域也主要集中在以上部位[9,10]。因此,对于已经发生脊椎骨转移瘤的患者而言,临床综合治疗的基本原则是最大限度的提高患者的生活质量。

从病例资料的分析结果上看,传统的保守治疗方法主要是采用放化疗的方式进行治疗。临床大量的病例经验在一定程度上也证实了放化疗在改善患者临床症状方面的比较优势,同时由放化疗取代手术治疗也显著降低了患者术后的相关并发症的发生,能够在提升患者生活质量方面起到一定效果[11]。然而放化疗的治疗过程往往较为漫长,在漫长的放化疗过程中,放化疗本身对于患者机体相关组织的伤害程度也较大[12],因此,从长期治疗的角度上分析,放化疗对于脊椎骨转移瘤患者生活质量提升的综合效果并不十分理想。

在此背景下,为了寻求替代单纯放化疗的可靠方法,经皮穿刺椎弓根途径椎体成形术逐渐在临床实践的过程中得以广泛应用[13]。经皮穿刺椎弓根途径椎体成形术在是微创观念和理论发展的基础上提出并得以广泛应用的临床微创诊疗技术[14]。这项手术是在相关监控设备的辅助下,其主要原理是采用经皮穿刺病变椎体,通过注入骨水泥来实现患者局部止痛和加固椎体的作用[15]。进一步研究相关临床资料后,我们总结发现:经皮穿刺椎弓根途径椎体成形术能够在临床实践过程中表现出一定的比较优势,主要与以下几个因素相关:第一,采用骨水泥进行加固,在很大程度上增加了椎体强度,同时对于患者的椎体稳定性,尤其是对微骨折后患者的椎体稳定性的提升十分有利[16];第二,在骨水泥发生聚合作用的过程中,会一定程度的释放能量,释放出的能量以高温形式表现,从而能够对患者局部的神经单元产生一定的麻痹作用,降低其敏感度和活性,从而在临床上表现为疼痛感消失[17]。

从本文的比较研究数据结果上分析:两组患者实施不同治疗后,给予经皮穿刺椎弓根途径椎体成形术的研究组患者手术1d、1个月、3个月、6个月和1年后的临床满意度均显著的高于给予传统保守治疗方法的对照组患者,且组间比较差异均有统计学意义。这一结果也进一步证实了上述观点,同时与文献报道结果也十分一致[18,19]。

综上所述,在胸腰椎椎体转移肿瘤的临床治疗中,采用经皮穿刺椎弓根途径椎体成形术的临床综合效果显示,与传统保守治疗方法相比较可有效改善和提高患者的生活质量,是临床治疗胸腰椎椎体转移肿瘤的理想方式之一。

参考文献(References)

[1] Shi Z, Chen J, Wang C, et al. Comparison of Thoracoscopic Anterior Release Combined With Posterior Spinal Fusion Versus Posterior-only Approach With an All-pedicle Screw Construct in the Treatment of Rigid Thoracic Adolescent Idiopathic Scoliosis [J]. J Spinal Disord Tech, 2015, 28(8): 454-459

[2] Sugita S, Hozumi T, Yamakawa K, et al. Risk factors for surgical site infection after posterior fixation surgery and intraoperative radiotherapy for spinal metastases[J]. Eur Spine J, 2016, 25(4): 1034-1038

[3] Khan KM, Bhatti A, Khan MA. Posterior spinal fixation with pedicle screws and rods system in thoracolumbar spinal fractures [J]. J Coll Physicians Surg Pak, 2012, 22(12): 778-782

[4] Anghel S, Petrisor M, Buicu CF, et al. Predictive factors for postoperative deformity in thoracolumbar burst fractures: a statistical approach[J]. Acta Orthop Traumatol Turc, 2015, 49(2): 133-138

[5] Park SR, Na HY, Kim JM, et al. More than 5-Year Follow-up Results of Two-Level and Three-Level Posterior Fixations of Thoracolumbar Burst Fractures with Load-Sharing Scores of Seven and Eight Points [J]. Clin Orthop Surg, 2016, 8(1): 71-77

[6] Eliades P, Rahal JP, Herrick DB, et al. Unilateral pedicle screw fixation is associated with reduced cost and similar outcomes in selected patients undergoing minimally invasive transforaminal lumbar interbody fusion for l4-5 degenerative spondylolisthesis [J]. Cureus, 2015, 7(2): e249

[7] Jacquot F, Gastambide D. Percutaneous endoscopic transforaminal lumbar interbody fusion: is it worth it[J]. Int Orthop, 2013, 21(8): 150 7-1510

[8] Parker SL, Mendenhall SK, Shau DN, et al. Minimally invasive versus open transforaminal lumbar interbody fusion for degenerative spondylolisthesis: comparative effectiveness and cost-utility analysis [J]. World neurosurgery, 2014, 82(1): 230-238

[9] Gu H, Fu J, Yi N, et al. AF pedicle screw internal fixation system for thoracolumbar burst fractures: Medium- and long-term curative effects during 30 months follow-up [J]. Journal of Clinical Rehabilitative Tissue Engineering Research, 2012, 16(13): 2378-2381

[10] Lee SM, Lee GW. The impact of generalized joint laxity on the clinical and radiological outcomes of single-level posterior lumbar interbody fusion[J]. Spine J, 2015, 15(5): 809-816

[11] Komp M, Hahn P, Oezdemir S, et al. Bilateral spinal decompression of lumbar central stenosis with the full-endoscopic interlaminar versus microsurgical laminotomy technique:a prospective, randomized,controlled study[J]. Pain Physician, 2015, 18(1): 61-70

[12] Pacione D, Kim I, Wilson TA, et al. Cortical?screw?trajectory for instrumentation and fusion in the setting of osteopathic compression? fracture?allows for percutaneous kyphoplasty for adjacent level compression fractures[J]. J Clin Neurosci, 2015, 22(5): 899-904

[13] Tarrant RC, O'Loughlin PF, Lynch S, et al. Timing and predictors of return to short-term functional activity in adolescent idiopathic scoliosis after posterior spinal fusion: a prospective study [J]. Spine, 2014, 39(18): 1471-1478

[14] Bae JW, Gwak HS, Kim S, et al. Percutaneous vertebroplasty for patients with metastatic compression fractures of the thoracolumbar spine: clinical and radiological factors affecting functional outcomes [J]. Spine J, 2015, 2(12): 15-21

[15] Cao J, Kong L, Meng F, et al. Risk factors for new vertebral compression fractures after vertebroplasty: a meta-analysis[J]. ANZ J Surg, 2016, 7(8): 1125-1129

[16] Barcelos AC, Joaquim AF, Botelho RV. Reliability of the evaluation of posterior ligamentous complex injury in thoracolumbar spine trauma with the use of computed tomography scan [J]. Eur Spine J, 2016, 25(15): 59-65

[17] Li HJ, Zhang WB, Fang CY, et al. Case-control study on therapeutic effects between posterior corpectomy, decompression and reconstruction and combined anterior-posterior surgery for the treatment of severe thoracolumbar fractures with incomplete paraplegia [J]. China Journal of Orthopaedics and Traumatology, 2014, 27(11): 928-932

[18] Kroeze RJ, Smit TH, Vergroesen PP, et al. Spinal fusion using adipose stem cells seeded on a radiolucent cage filler: a feasibility study of a single surgical procedure in goats [J]. European Spine Journal, 2014, 24(5): 1031-1042

[19] 周友良, 饶根云, 李孟军, 等. 经骨折椎体椎弓根螺钉短节段固定治疗胸腰段骨折疗效 [J]. 现代生物医学进展, 2016, 16(19): 3680-3682, 3641

Zhou You-liang, Rao Gen-yun, Li Meng-jun, et al. Effectiveness of Short-Segment Fixation of Lumbar Burst Fractures Using Pedicle Fixation at the Level of the Fracture [J]. Progress in Modern Biomedicine, 2016, 16(19): 3680-3682, 3641