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基于中医 " 急则治其标 " 理论指导老年 OVCF 患者行急诊椎体成形术的临床疗效评价 *

蔡 平 周陈西 李 东 常志泳 陈印磊 杨 挺[△]

(江苏省中医院骨科 江苏 南京 210029)

摘要 目的:探讨在中医 " 急则治其标 " 理论指导下,为 70 岁以上老年骨质疏松性椎体压缩骨折(OVCF)患者行急诊椎体成形术的临床疗效和并发症。**方法:**前瞻性对照研究江苏省中医院 2017 年 1 月~2019 年 12 月期间诊断为 OVCF 行椎体成形术治疗且年龄在 70 岁以上的 59 例患者,根据从入院至手术时间分为急诊手术组($n=30$)和择期手术组($n=29$)。急诊手术组患者为入院当天即安排术前必要检查,以中医 " 急则治其标 " 的理论为指导,中西医结合措施干预急性疼痛、高血压、高血糖等应激状态。择期手术组患者入院后常规安排各项检查,常规镇痛,监测并调整血压血糖情况、评估心肺功能,待患者基础病情平稳,入院 3 天后行椎体成形术治疗,对比两组的临床疗效和并发症。**结果:**急诊手术组术前住院天数明显少于择期手术组($P<0.05$),急诊手术组进入手术室后焦虑自评量表(SAS)低于择期手术组($P<0.05$)。急诊手术组术后当天和出院当天数字疼痛评分(NRS)低于择期手术组($P<0.05$);急诊手术组术后当天和出院后 1 个月 Oswestry 腰椎功能障碍指数(ODI)评分低于择期手术组($P<0.05$)。急诊手术组术后 Cobb 角以及后凸畸形矫正率明显优于择期手术组($P<0.05$)。急诊手术组并发症发生率少于择期手术组($P<0.05$),满意度优良率高于择期手术组($P<0.05$)。**结论:**坚持 " 急则治其标 " 的原则,联合中西医干预措施治疗老年 OVCF 行急诊椎体成形术患者,能够缓解焦虑情绪,患者术后早期疼痛缓解更明显,腰背功能恢复更满意,术后 Cobb 角和后凸畸形矫正率改善更好,并发症更少,患者满意度更高。

关键词:老年人;骨质疏松性椎体压缩骨折;急则治其标;椎体成形术;疗效

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Evaluation of the Clinical Effect of Emergency Vertebroplasty in Elderly Patients with OVCF Based on the Theory of "Urgent treatment of Its Standard" of Traditional Chinese Medicine*

CAI Ping, ZHOU Chen-xi, LI Dong, CHANG Zhi-yong, CHEN Yin-lei, YANG Ting[△]

(Department of Orthopedics, Jiangsu Hospital of Traditional Chinese Medicine, Nanjing, Jiangsu, 210029, China)

ABSTRACT Objective: To investigate the clinical efficacy and complications of emergency vertebroplasty for patients with osteoporotic vertebral compression fracture (OVCF) aged over 70 years under the guidance of the theory of "urgent treatment of its standard" in traditional Chinese medicine. **Methods:** A prospective, controlled study was conducted on 59 patients aged over 70 who were diagnosed with OVCF and underwent vertebroplasty in Jiangsu Hospital of Traditional Chinese Medicine from January 2017 to December 2019. According to the time from admission to operation, the patients were divided into emergency operation group ($n=30$) and elective operation group ($n=29$). In the emergency operation group, necessary preoperative examinations were arranged on the day of admission, under the guidance of the theory of "urgent treatment of its standard" in traditional Chinese medicine. Integrated Chinese and western medicine measures to intervene acute pain, hypertension, hyperglycemia and other stress state. Routine examinations were arranged for the patients in the elective operation group after admission, and routine analgesia, monitor and adjust blood pressure and blood sugar, evaluate cardiopulmonary function, the patient's basic condition was stable, and vertebroplasty was performed 3 days after admission. The clinical efficacy and complications of the two groups were compared. **Results:** The number of hospitalization days before operation in the emergency operation group was significantly less than that in the elective operation group ($P<0.05$). Self-Rating Anxiety Scale of the emergency operation group was lower than that of the elective operation group ($P<0.05$). The digital pain score (NRS) of the emergency operation group on the day after operation and the discharge day were lower than that of the elective operation group ($P<0.05$). Oswestry lumbar dysfunction index (ODI) score of the emergency operation group on the day after operation and 1 month after discharge were lower than that of the elective operation group ($P<0.05$). The Cobb Angle after operation and correction rate of kyphotic deformity

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作者简介:蔡平(1984-),男,博士研究生,主治中医师,研究方向:脊柱外科微创手术和中西医结合快速康复,E-mail: jsspine@163.com

[△] 通讯作者:杨挺(1971-),男,博士,副教授,副主任中医师,研究方向:退变性脊柱病的中西医结合临床和基础研究,

E-mail: dryangting2009@163.com

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in the emergency operation group was significantly better than that in the elective operation group ($P<0.05$). The total incidence rate of complications in the emergency operation group was less than that in the elective operation group ($P<0.05$), and the excellent and good rate of satisfaction was higher than that in the elective operation group ($P<0.05$). **Conclusion:** Adhere to the "urgent treatment of its standard", the principle of combination of Chinese and western medicine treatment interventions in elderly patients with OVCF emergency vertebral plasty, it can alleviate anxiety, patients with early postoperative pain relief is more apparent, waist and back more satisfied functional recovery, postoperative protrusion deformity correction rate after Cobb Angle and improve better, less complications, patients' satisfaction is higher.

Key word: Elderly patients; Osteoporotic vertebral compression fracture; Urgent treatment of its standard; Vertebroplasty; Clinical effect

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前言

经皮椎体成形术最早用于椎体血管瘤的微创治疗,现已广泛用于胸腰椎骨质疏松性椎体压缩骨折的治疗^[1-3]。随着中国人口老龄化程度的日趋加重,骨质疏松症的发病率越来越高^[4]。与其他人群相比,70岁以上老年骨质疏松性椎体压缩骨折(OVCF)患者的临床特点具有特殊性:①合并一种或多种慢性疾病。如高血压、糖尿病、冠心病等内科疾病。②骨质疏松严重,骨质条件不佳,保守治疗骨折不愈合风险高。③因骨折卧床制动,容易出现坠积性肺炎、尿路感染、下肢深静脉血栓等卧床并发症。④手术耐受性差,术中配合差,麻醉风险高^[5-7]。所以,对于年龄大、基础病多、不能耐受卧床保守治疗的患者,我们更倾向于椎体成形术治疗。目前国内尚无关于70岁以上老年OVCF患者急诊手术的相关研究报道,本研究以中医"急则治其标"为理论基础,联合中西医措施为OVCF患者提供围手术期保障,开展老年急诊椎体成形术,获得了满意的效果,现将研究报道如下:

1 资料与方法

1.1 临床资料

选取2017年1月至2019年12月在江苏省中医院住院的70岁以上OVCF患者,所有患者均行椎体成形术治疗。根据从入院至手术时间分为急诊手术组($n=30$)和择期手术组($n=29$)。急诊手术组入院当天即手术,择期手术组入院3天后手术。术前向患者宣教讲解疼痛程度的描述及主观满意度的评价标准。

1.2 纳入标准和排除标准

纳入标准:①年龄71-90岁;②符合骨质疏松症诊断标准^[8],DXA骨密度测定T值 ≤ -2.5 SD;③胸腰椎磁共振检查或全身核素扫描证实为新鲜胸腰椎椎体压缩性骨折;④取得患者知情同意,并签署手术同意书。排除标准:①精神状况异常,或语言沟通交流障碍者;②椎体爆裂骨折,骨折块突入椎管,或其他不符合椎体成形术指征者;③怀疑或确诊为肿瘤或炎症性椎体病理骨折者;④风湿性脊柱病,有慢性脊柱痛临床表现者;⑤局部或全身存在感染性疾病者。

1.3 治疗方法

1.3.1 术前准备 (1)急诊手术组:入院即行术前必要检查,包括血常规、凝血功能、心电图、全胸片等常规检查。以中医"急则治其标"的理论为指导的临床实践:针对老年人"高血压

病、糖尿病、冠心病"等基础疾病在急性疼痛应激下的表现,采取"中医为主、中西医结合"的干预措施,调整血压、血糖及情绪状态,为急诊手术服务。具体如下:①以曲池、风池为主穴,合谷、太冲、内关为配穴,毫针刺,泻法运针。②以心、脑、神门、腰椎为协定耳穴处方。③收缩压高于180 mmHg者,以短效降压药(硝苯地平片、硝酸甘油)舌下含服;④根据血糖水平,随机血糖高于15 mmol/L者,以合适剂量的短效胰岛素皮下注射。⑤数字疼痛评分(NRS) >4 分患者首选腕踝针镇痛,对晕针患者或腕踝针效果不佳者,根据疼痛NRS评分,结合基础疾病情况,为患者选择非甾体消炎镇痛药或阿片类镇痛药。⑥根据俯卧位耐受时间为手术体位选择提供依据,能够耐受30 min以上者采用俯卧位手术体位,不能耐受30 min以上者采用侧卧位手术体位。⑦重视人文关怀,建立医患信任,增加患者对急诊手术的信心。(2)择期手术组:患者入院后安排各项入院检查,常规镇痛,根据检查结果评估心肺功能,根据患者入院后血压血糖监测情况调整用药,必要时请专科医生会诊。待健康评估完成,基础情况平稳,在入院3天之后安排择期椎体成形术。

1.3.2 手术方法 所有患者均在局麻下实施手术,术中持续心电图监测,1%利多卡因在椎弓根左10点、右2点位置皮肤投影处穿刺局部浸润麻醉,C臂机透视引导下经皮行椎弓根穿刺,在椎体内安全置入工作套筒,工作套管深部距椎体后缘5 mm,调和骨水泥,透视下使其在拉丝期缓慢注入骨折椎体内,根据骨折椎体节段位置和椎体压缩程度以及术中骨水泥渗漏情况,决定骨水泥注射量。本研究59个病例,共计69个骨折椎体,单个椎体内注入骨水泥量最多为11 mL,最少为2 mL。所有患者均顺利完成手术。注射过程中观察骨水泥填充、弥散情况,当均匀弥散或出现渗漏倾向即停止继续注射。

1.3.3 术后管理 嘱患者术后1~2小时下地活动,不再使用抗菌药物,所有患者均以钙剂、活性维生素D、二膦酸盐抗骨质疏松治疗。术后复查正侧位X片,疼痛解除或明显减轻即安排出院。

1.4 观察指标

①对两组患者住院天数和焦虑自评量表(SAS)的评分进行统计对比,SAS评分量表共分为20项,分值越高表明患者的焦虑症状越严重^[9]。②采用NRS评分、Oswestry腰椎功能障碍指数(ODI)对两组患者术前1天、术后当天、出院当天、出院后1个月的疼痛程度、腰背功能进行评估。NRS评分:0分为无痛,1~3分为轻度疼痛,4~6分为中度疼痛,7~10分为重度疼痛^[10]。

ODI 量表共 10 个问题,每题 6 个选项,满分 50 分,得分越高说明功能障碍越严重^[11]。② 基于 PACS 系统测量患者手术前后的 Cobb 角,根据测得 Cobb 角计算后凸畸形矫正率,并对两组患者的骨水泥注射量进行组间对比。③ 统计对比两组患者手术治疗期间的并发症发生率。④ 采用医院自制问卷对两组患者的主观满意度进行统计对比,由患者对本次医疗服务给予主观满意度评价,分为优、良、中、差四个等级。

1.5 统计学处理

采用 SPSS24.0 软件进行数据处理和统计学分析。住院天

数、SAS 评分、Cobb 角以及后凸畸形矫正率等计量资料以 ($\bar{x} \pm s$) 表示,其组间比较采用成组 t 检验而组内比较采用配对 t 检验;性别比例、并发症和满意度等计数资料以例数和百分率表示,通过 χ^2 检验对比两组间的差异。 $P < 0.05$ 为差异有统计学意义。

2 结果

2.1 两组患者一般资料比较

两组患者性别、年龄、病程等一般资料比较,差异无统计学意义($P > 0.05$),见表 1。

表 1 两组患者一般资料比较

Table 1 Comparison of general data between the two groups

Groups	n	Gender(male/female)	Age(years)	Course of disease(d)
Emergency operation group	30	9/21	79.00± 6.98	8.73± 11.16
Lective operation group	29	8/21	79.90± 6.95	8.41± 13.27
t/χ^2		0.042	-0.494	0.100
P		0.838	0.623	0.921

2.2 两组患者住院天数和 SAS 评分比较

急诊手术组术前住院天数明显少于择期手术组 ($P < 0.05$),两组术后住院天数无明显差异($P > 0.05$),两组患者入院

时 SAS 评分无统计学差异($P > 0.05$)。急诊手术组进入手术室后 SAS 评分低于择期手术组($P < 0.05$)。见表 2。

表 2 两组患者住院天数和 SAS 评分比较($\bar{x} \pm s$)

Table 2 Comparison of hospitalization days and SAS scores between the two groups($\bar{x} \pm s$)

Groups	n	Hospitalization days before operation(d)	Hospitalization days after operation(d)	SAS score at admission (score)	SAS score after entering the operating room(score)
Emergency operation group	30	0.00± 0.00	1.93± 1.46	61.36± 10.75	37.07± 4.92
Lective operation group	29	4.45± 1.27	2.55± 2.59	60.62± 11.31	56.97± 12.14
t		-18.860	-1.136	0.258	8.303
P		0.000	0.261	0.798	0.000

2.3 两组患者 NRS、ODI 评分比较

急诊手术组术后当天和出院当天 NRS 评分低于择期手术组($P < 0.05$),两组术前 1 天、出院后 1 个月的 NRS 评分比较

无明显差异 ($P > 0.05$); 急诊手术组术后当天和出院后 1 个月 ODI 评分低于择期手术组($P < 0.05$),两组术前 1 天、出院当天的 ODI 评分比较无明显差异($P > 0.05$),见表 3。

表 3 两组患者 NRS 评分和 ODI 评分比较($\bar{x} \pm s$, 分)

Table 3 Comparison of NRS scores and ODI scores between the two groups($\bar{x} \pm s$, scores)

Groups	n	NRS scores				ODI scores			
		1 day before operation	Day after operation	Discharge day	1 month after discharge	1 day before operation	Day after operation	Discharge day	1 month after discharge
Emergency operation group	30	6.78± 2.39	3.98± 0.89	1.08± 0.43	0.52± 0.12	42.20± 5.10	26.93± 7.73	25.33± 9.04	2.73± 2.60
Lective operation group	29	6.46± 2.23	4.67± 0.94	1.54± 0.69	0.55± 0.16	43.14± 6.41	31.72± 7.55	25.79± 9.23	5.45± 4.78
t		0.531	2.896	3.085	0.817	0.624	-2.406	-0.193	-2.724
P		0.597	0.005	0.003	0.417	0.535	0.019	0.847	0.009

2.4 两组患者手术前后影像学参数比较

两组骨水泥注射量及术前 Cobb 角比较未见统计学差异

($P > 0.05$),急诊手术组术后 Cobb 角以及后凸畸形矫正率明显优于择期手术组($P < 0.05$),见表 4。

表 4 两组患者手术前后影像学参数比较($\bar{x} \pm s$)

Table 4 Comparison of imaging parameters between the two groups before and after operation($\bar{x} \pm s$)

Groups	n	Injection volume of bone cement(mL)	Cobb angle before operation(°)	Cobb Angle after operation(°)	Correction rate of kyphotic deformity(%)
Emergency operation group	30	6.05± 2.46	15.90± 8.75	6.79± 3.63	0.54± 0.16
Lective operation group	29	6.17± 1.76	16.20± 8.29	9.27± 4.93	0.40± 0.19
t		-0.227	-0.146	-2.399	3.361
P		0.821	0.885	0.019	0.001

2.5 两组患者围手术期并发症比较

并发症,急诊手术组并发症发生率少于择期手术组($P<0.05$),

急诊手术组共 13 例出现并发症,择期手术组共 20 例出现 见表 5。

表 5 两组患者围手术期并发症比较

Table 5 Comparison of perioperative complications between the two groups

Groups	n	Constipation	Giddy palpitate	Nausea and vomiting	Urinary tract infection	Total incidence rate (%)
Emergency operation group	30	2	5	6	0	13(43.33)
Lective operation group	29	5	7	4	4	20(68.97)
χ^2						8.643
P						0.009

2.6 两组患者主观满意度比较

意度优良率为 58.62%。急诊手术组与择期手术组主观满意度

急诊手术组主观满意度优良率为 83.33%; 择期手术组满意度优良率相比较,差异有统计学意义($P<0.05$)。见表 6。

表 6 两组患者主观满意度比较

Table 6 Comparison of subjective satisfaction between the two groups

Groups	n	Excellent	Good	Middle	Bad	Excellent and good rate(%)
Emergency operation group	30	18	7	5	0	25(83.33)
Lective operation group	29	8	9	10	2	17(58.62)
χ^2						4.390
P						0.036

3 讨论

"急则治其标,缓则治其本"是中医学治疗疾病的重要原则之一,源于《素问·标本病传论》,是指当疾病发展过程中兼有标本,标病属实为急证者,当先治其标,否则可能影响疾病的治疗结局,或不利于患者康复^[12,13]。OVCF 属于中医"本痿标痹、本虚标实"之病症。骨质疏松为"本",属年老体衰、肝肾亏损所致之虚证;骨折疼痛为"标",属急性损伤所致骨折筋伤之实证^[14]。老年患者常合并高血压病、糖尿病、冠心病等多种内科慢性疾病,机体自我调节能力差,突然遭受骨折病痛,卧床不能活动,常并见血压血糖异常、心律失常等^[15-17]。研究表明,越早解决椎体骨折的疼痛症状,可以缩短住院时间,患者预后越好,并发症越少。通过急诊手术实现标症的治疗具有"釜底抽薪"的

价值,也正是对本病"急则治其标"的体现^[18,19]。尽管择期手术组患者详尽地完善了术前准备工作,但进入手术室后的 SAS 评分结果依然高于急诊手术组($P<0.05$),患者住院等待手术时间越长,焦虑情绪越明显,影响了患者局麻术中的配合和对手术整体感受的评价。

本研究是中医"急则治其标"理论在老年椎体成形术加速康复外科方面的临床实践。中医急症思维不仅要求具有中医思维"整体观念,辨证论治"的普遍性,同时还具有中医急症"救人保命,危重优先"的特殊性^[20-22]。蒋虹伟^[23]认为通过围手术期相应的中医治疗可帮助患者改善围术期影响患者术后康复的不利因素,能使骨科手术患者获得快速恢复健康和正常活动的的能力。本研究在手术前联合运用中西医方法,对患者创伤应激状态下的"急性疼痛、高血压、高血糖"等标症做相应处理,

为急诊椎体成形术的顺利开展带来了可能。椎体成形术是治疗 OVCF 的有效方法^[24,25],国外文献已证实高龄患者(80 岁以上)行椎体成形术的安全性和有效性^[26],骨水泥聚合反应释放出的高热使椎体内神经末梢坏死及骨水泥硬化过程使骨折椎体局部稳定性得以迅速重建,是椎体成形术能够快速止痛的原理^[27,28]。目前文献缺乏老年患者急诊椎体成形术的临床研究结论,借鉴关节外科、创伤外科以及腹部外科的临床实践,为老年患者实施急诊手术有助于提高手术疗效,降低手术并发症风险^[29]。本次研究结果也证实急诊手术组术后患者 NRS 评分和 ODI 评分优于择期手术组,且患者围手术期并发症发生率较择期手术组明显降低($P<0.05$),而且在术后 Cobb 角以及后凸畸形矫正率方面,急诊手术组具有明显的优势($P<0.05$)。急诊手术组患者主观满意度优良率为 83.33%,优于择期手术组的 58.62%($P<0.05$)。这是因为中医“急则治其标”理论从中医思维“整体观念,辨证论治”的角度出发,对于患者的急症则采用中医急诊中的“救人保命,危重优先”的原则^[30],联合中西医方法,从而提高老年 OVCF 患者急诊椎体成形术的疗效。

综上所述,在中医“急则治其标”理论指导下,充分发挥中西医各自优势,联合中西医方法,保障老年 OVCF 患者入院后顺利开展急诊椎体成形术是切实可行的。患者住院时间更短,恢复更快,并发症更少,满意度更高,值得临床工作者实践推广。然而,本研究属于单中心临床观察,病例数较少,未设随机方案是本研究的不足之处。在后期的临床研究工作中,我们需要进一步提升研究的循证医学证据,以中医“标本治则”理论为指导,进一步优化中西医干预措施,为老年 OVCF 患者的围手术期治疗和快速康复提供更好的医学服务。

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(上接第 4691 页)

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