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中药穴位贴敷联合硬膜外镇痛泵对老年髋关节骨折患者镇痛效果的影响*

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摘要 目的：探讨中药穴位贴敷联合硬膜外镇痛泵对老年髋关节骨折患者镇痛效果的影响。**方法：**选取 2012 年 2 月至 2019 年 2 月西安交通大学附属红会医院中医骨科 80 例老年髋关节骨折患者为研究对象，根据入院顺序，随机化原则将受试者分为对照组和研究组，每组 40 例，对照组患者术后均给予硬膜外镇痛泵止痛，研究组患者在对照组的基础上联合中药穴位贴敷止痛，比较两组患者术后的疼痛程度、疼痛相关指标、手术前后血清 β- 内啡肽水平变化及术后镇痛不良反应发生率。**结果：**研究组患者在术后 1 d、3 d、7 d 静息状态及活动状态的近期视觉模拟评分(Visual analogue scale, VAS)均显著低于对照组（$P<0.05$），研究组患者疼痛时间、爆发痛次数、术后 24 h 按压镇痛泵次数、睡眠时间及止痛剂用量均显著少于对照组（$P<0.05$），术后首次按压镇痛泵时间显著长于对照组（$P<0.05$），术前两组患者的血清 β- 内啡肽水平比较无统计学差异（$P>0.05$），术后 24 h 及 48 h 研究组患者的血清 β- 内啡肽水平均显著高于对照组（$P<0.05$），两组术后镇痛不良反应发生率比较无统计学差异（$P>0.05$）。**结论：**中药穴位贴敷联合硬膜外镇痛泵可有效缓解术后疼痛，减少止痛剂用量，提高患者睡眠质量及血清 β- 内啡肽水平，对促进髋关节骨折患者术后康复具有积极意义。

关键词：中药穴位贴敷；硬膜外镇痛泵；髋关节骨折；镇痛效果；β- 内啡肽；不良反应

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Effect of Traditional Chinese Medicine Acupoint Application Combined with Epidural Analgesia Pump on Analgesia in Elderly Patients with Hip Fracture*

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ABSTRACT Objective: To explore the effect of acupoint sticking with traditional Chinese medicine combined with epidural analgesia pump on analgesia in elderly patients with hip fracture. **Methods:** 80 elderly patients with hip fracture were selected as research object from February 2012 to February 2019. According to the principle of randomization, the subjects were divided into the control group and the study group and each group of 40 cases. The control group received an epidural analgesia pump for pain relief after surgery, the study group on the basis of this combination of traditional Chinese medicine acupoint application. Postoperative pain, various pain-related indicators, changes in serum β-endorphin levels before and after surgery, and incidence of postoperative analgesia were compared for the two groups. **Results:** The VAS scores of the study group at 1d, 3d, 7d after resting and active status were significantly lower than the control group ($P<0.05$). The pain time, number of outbreaks, pressing the analgesic pump frequency at 24 hours after surgery, sleeping time and analgesic dosage in the study group were significantly lower than those in the control group ($P<0.05$). The time of first press of analgesia pump postoperative was significantly longer than that of the control group ($P<0.05$). There was no significant difference in serum β-endorphin levels between the two groups before surgery($P>0.05$). The serum β-endorphin levels in the study group were significantly higher than those in the control group at 24 h and 48 h after surgery($P<0.05$). There was no significant difference in the incidence of postoperative analgesic adverse reactions between the two groups ($P>0.05$). **Conclusion:** Traditional Chinese medicine acupoint application combined with epidural analgesia pump can effectively relieve postoperative pain, reduce the dosage of analgesics, improve the quality of sleeping and serum β-endorphin level, which has positive significance for promoting postoperative rehabilitation of patients with hip fracture.

Key words: Traditional Chinese medicine acupoint application; Epidural analgesia pump; Hip fracture; Analgesic effect; β-endorphin; Adverse reactions

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前言

近年来，随着我国老年人口数量的持续增长，使得髋关节骨折的发生率也逐年增加。髋关节置换术可有效进行关节功能重建、缓解患者的疼痛症状，是临床治疗髋关节疾病的首选术式，广泛被临床应用于股骨颈骨折、股骨头坏死等疾病的治疗。尽管疗效确切，但该术式创伤性大、出血量多、术后疼痛明显，加之患者多为耐受性较差的老年人，常因术后疼痛而不愿进行早期功能锻炼，不仅会增加术后并发症发生率，且不利于术后康复[1-3]。以往临床上在骨折术后常应用舒芬太尼复合罗哌卡因利用硬膜外镇痛泵的方式来缓解疼痛，尽管可发挥一定的镇痛效果，但随着用药时间的延长，则会增加机体的耐药性，且会诱发恶心呕吐、低血压、呼吸抑制等不良反应[4-6]。近年来，随着中医特色疗法在临床研究的不断深入，中药穴位贴敷在缓解骨折术后疼痛方面具有一定优势[7]。为此本研究选取 2012 年 2 月至 2019 年 2 月西安交通大学附属红会医院中医骨科 80 例老年髋关节骨折患者，探讨中药穴位贴敷联合硬膜外镇痛泵对老年髋关节骨折患者镇痛效果的影响。

1 资料与方法

1.1 一般资料

选取 2012 年 2 月至 2019 年 2 月西安交通大学附属红会医院中医骨科 80 例老年髋关节骨折患者，所有患者均自愿接受髋关节置换术治疗，签署手术知情同意书，且排除手术禁忌证、手术前后应用其他镇痛药物、精神病史、相关药物过敏史、局部皮肤溃烂、治疗依从性差及无法配合本次研究者。根据随机化原则将受试者分为对照组和研究组，每组 40 例，对照组中男 23 例，女 17 例，年龄 63-85 岁，平均（72.51± 4.26）岁，全髋关节置换术 21 例，半髋关节置换术 19 例；研究组中男 22 例，女 18 例，年龄 65-86 岁，平均（72.85± 4.43）岁，全髋关节置换术 22 例，半髋关节置换术 18 例。两组患者的基本资料之间比较，无统计学差异（P>0.05），具有可比性。

1.2 方法

对照组患者术后均给予硬膜外镇痛泵止痛。将 0.03 mg 舒芬太尼与 0.894 %罗哌卡因 15 mL 加入到 85 mL 生理盐水中配置成 100 mL 备用药剂，利用镇痛泵进行镇痛，负荷剂量 2 mL，背景剂量 2 mL/h，药物耗尽后更换新的镇痛泵。研究组患者在对照组的基础上联合中药穴位贴敷止痛，将红花 10 g、麝香 0.3 g、延胡索 15 g、香加皮 5 g、生草乌 5 g、独活 10 g、血竭 5 g 混合后研磨成粉，以醋调和成膏状，并取适量膏药置于医用胶布上，于腰痛穴、血海、足三里、三阴交等穴进行贴敷，并采用医用胶布固定牢靠，每次贴敷 6 h，每日 1 次，连续治疗 7 d。

1.3 观察指标

比较两组患者术后的疼痛程度，疼痛时间、爆发痛次数、术后 24 h 按压镇痛泵次数、睡眠时间、止痛剂用量、首次按压镇痛泵时间等疼痛相关指标、手术前后血清 β- 内啡肽水平变化及术后消化道反应（出血、恶心、呕吐、纳差、上腹痛、大便隐血等）、低血压（收缩压 90 mmHg）及呼吸抑制（呼吸频率 12 次 /min 和（或）SpO_2 90%）等镇痛不良反应发生率。

1.4 评价标准

（1）疼痛程度：采用视觉模拟疼痛（Visual analog scales, VAS）评分量表评价两组患者术后第 1 d、第 3 d 及第 7 d 的疼痛程度，满分 10 分，无痛记 0 分；轻微疼痛记 1-3 分；中度疼痛记 4-6 分；重度疼痛记 7-9 分；疼痛无法忍受记 10 分[8]。（2）β- 内啡肽测定：并于术前、术后 24 h 及 48 h 取患者的肘静脉血 5 mL，血凝后立即离心分离，将分离出血清后采用平衡饱和分析法检测两组患者血清 β- 内啡肽水平[9]。

1.5 统计学方法

采用 SPSS19.0，以 P<0.01 为差异有统计学意义，计数资料采用百分数（%）表示，行独立样本 x^2 检验，计量资料采用均数± 标准差（$\bar{x}\pm s$）表示，行 t 检验。

2 结果

2.1 两组患者术后疼痛程度

研究组患者在术后 1 d、3 d、7 d 静息状态及活动状态的 VAS 评分均显著低于对照组（P<0.05），见表 1。

表 1 两组患者术后疼痛程度（$\bar{x}\pm s$，分）

Table 1 Postoperative pain degree of patients in the two groups ($\bar{x}\pm s$, score)

Groups	NNT	Postoperative 1 d	Postoperative 3 d	Postoperative 7 d
Study group（n=40）	Resting state	2.12± 1.08	1.12± 0.78	0.88± 0.35
	Active state	4.79± 1.62*#	3.68± 1.29*#	1.85± 0.43*#
Control group（n=40）	Resting state	2.14± 1.12	2.42± 1.32	0.90± 0.38
	Active state	7.58± 1.73*	5.18± 1.47*	2.45± 0.72*

注：与同组静息状态比较，*P<0.05，与对照组活动状态比较，#P<0.05。

Note: Compared with the resting state of the same group, *P<0.05, compared with the active state of the control group, #P<0.05.

2.2 两组患者疼痛相关指标

研究组患者疼痛时间、爆发疼痛次数、术后 24 h 按压镇痛泵次数、睡眠时间及止痛剂用量均显著少于对照组（P<0.05），术后首次按压镇痛泵时间显著长于对照组（P<0.05），见表 2。

2.3 治疗前后两组血清 β- 内啡肽水平变化

术前两组患者的血清 β- 内啡肽水平比较无统计学差异（P>0.05），术后 24 h 及 48 h 研究组患者的血清 β- 内啡肽水平均显著高于对照组（P<0.05），见表 3。

2.4 两组术后镇痛不良反应发生情况

两组术后镇痛不良反应发生率比较无统计学差异（P>0.05），见表 4。

表 2 两组患者疼痛各相关指标($\bar{x}\pm s$)

Table 2 Pain indicators of patients in the two groups($\bar{x}\pm s$)

Groups	Duration of pain (d)	Numbers of pain (Time/day)	Time to press pump(h)	Numbers of pressing pump(time)	Hours of sleep (h/d)	Analgesic dosage (mg/d)
Study group(n=40)	4.46± 1.03*	0.61± 0.26*	11.22± 3.65*	2.32± 1.42*	8.03± 1.35*	30.65± 8.14*
Control group(n=40)	7.25± 1.24	1.57± 0.18	5.35± 2.11	6.23± 2.06	5.14± 1.28	58.76± 10.25

注:与对照组比较,*P<0.05。

Note: compared with the control group,*P<0.05.

表 3 治疗前后两组血清 β 疗内啡肽水平变化($\bar{x}\pm s$, ng/L)

Table 3 β-Endorphin levels in serum in both groups before and after treatments($\bar{x}\pm s$, ng/L)

Groups	n	Preoperative	After 24 h	After 48 h
(Study group)	40	236.14± 10.93	164.25± 14.27*	220.35± 13.52*
(Control group)	40	241.26± 11.85	140.22± 12.47	179.65± 14.24

注:与同时间对照组比较,*P<0.05。

Note: Compared with the control group at the same time, *P<0.05.

表 4 两组术后镇痛不良反应发生情况(例, %)

Table 4 Incidence of postoperative analgesic adverse reactions in the two groups(n, %)

Groups	n	Gastrointestinal reaction	Hypotension	Respiratory depression	Total incidence
Study group	40	2(5.00)	1(2.50)	0(0.00)	3(7.50)
Control group	40	1(2.50)	2(5.00)	1(2.50)	4(10.00)

3 讨论

髋关节置换术是临床治疗髋关节骨折的有效手段,但因手术给患者带来的明显生理及心理应激反应,术后明显的疼痛不仅会使患者出现烦躁、焦虑等负面情绪,影响食欲及睡眠质量,另外在患者进行早期功能锻炼时会使疼痛加剧,增加呼吸系统及心血管系统的并发症,影响术后康复[10-12]。有研究表明,关节置换术患者睡眠紊乱与术后疼痛及关节功能恢复有一定的相关性,因此对骨折术后患者实施有效的干预对缓解术后疼痛、预防及减少并发症、改善睡眠质量、促进功能恢复具有积极意义[13-16]。有研究表明,骨折术后患者不仅要承受切口疼痛,还要承受早期功能锻炼所加重的疼痛[17]。硬膜外镇痛泵是临床上常用的一种镇痛方式,在减少骨折术后疼痛方面具有显著成效。舒芬太尼复合罗哌卡因是髋关节骨折术后常用的镇痛药物,但临床实践证实常会因呼吸抑制、胃肠道刺激及药物依赖性等而导致镇痛效果不理想[18-20]。

穴位贴敷是在中医经络学说的基础上将中药直接贴敷于穴位,是一种无创痛治疗疾病的中医特色疗法,可直接透皮吸收,通过皮肤 - 经脉 - 脏腑的途径使来调节脏腑功能、增强机体免疫力,以促进病情恢复,其优势在于价格低廉、易学易用、方面推广,且不经胃肠途径,不会引发消化道反应,无创无痛苦,易于被患者接受[21-23]。中医认为,髋关节骨折术后疼痛主要因手术创伤使局部皮肤、肌肉、筋骨等组织受到损伤,使气血经络运行不畅,不通则痛。本研究中药贴敷组方中,红花、麝香软化瘢痕、活血化瘀;延胡索活血化瘀止痛;香加皮强筋健骨;血竭活血化瘀;生草乌、独活散寒止痛、祛风化湿;樟脑、冰片消肿止痛。诸药联用,共奏活血化瘀、止痛消肿之功效[24,25]。

本研究结果表明,研究组患者在术后 1 d、3 d、7 d 静息状态及活动状态的 VAS 评分均显著低于对照组,研究组患者疼痛时间、爆发痛次数、术后 24 h 按压镇痛泵次数、睡眠时间及止痛剂用量均显著少于对照组,术后首次按压镇痛泵时间显著长于对照组,提示中药穴位贴敷联合硬膜外镇痛泵可协同性的缓解患者的疼痛症状,减少止痛剂用量,进而有助于减少镇痛所致的不良反应。β- 内啡肽是人体中内源性吗啡样物质的一种,具有很强的镇痛作用,在中枢神经与免疫系统间起着体液传递介质的作用[26-28]。有研究表明,当血清中β- 内啡肽含量降低时则会使患者的痛阈降低,增加疼痛的敏感性[29]。本研究结果表明,术后 24 h 及 48 h 研究组患者的血清 β- 内啡肽水平均显著高于对照组,提示中药穴位贴敷有助于升高血清中 β- 内啡肽含量,提高患者的疼痛阈值,进而缓解疼痛程度[30]。两组术后镇痛不良反应发生率比较无统计学差异,进一步说明中药穴位贴敷不经过胃肠作用,可有效避免及减少胃肠道反应,用药安全性高,患者耐受性好。

综上所述,中药穴位贴敷联合硬膜外镇痛泵可有效缓解术后疼痛,减少止痛剂用量,提高患者睡眠质量及血清 β- 内啡肽水平,对促进髋关节骨折患者术后康复具有积极意义。

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