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针灸、推拿及中药外敷对腰椎间盘突出的临床疗效及血清 TXB2、IL-1β、IL-10 水平对比 *

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摘要 目的：研究针灸、推拿及中药外敷对腰椎间盘突出的临床疗效及血清血栓素（thromboxane，TXA2）、白细胞介素 -1β（Interleukin-1β）、白细胞介素 -10（Interleukin-10 IL-10）水平对比。**方法：**选取 2019 年 1 月至 2020 年 12 月的 80 例腰椎间盘突出患者。按照随机数表法分为观察组（n=41）和对照组（n=39），对照组采用中药外敷治疗，观察组采用针灸、推拿及中药外敷联合治疗。对比两组治疗效果，治疗前后日本骨科协会评估治疗分数（Japanese Orthopaedic Association Scores JOA）、视觉模拟评分法（visual analogue scale VAS）评分情况变化，血清 TXB2、IL-1β、IL-10 水平变化，腰椎功能及腰部关节活动度，不良反应发生率。**结果：**治疗后，观察组总有效率显著高于对照组[95.12%（39/41）vs71.79%（28/39）]（*P*＜0.05）；JOA 显著高于对照组[（23.19±3.21）分 vs（17.62±2.65）分]（*P*<0.05），VAS 评分显著低于对照组[（2.07±0.38）分 vs（3.58±0.61）分]（*P*<0.05）；血清 TXB2、IL-1β 水平均显著低于对照组[（24.37±3.26）μg/L vs（34.08±4.72）μg/L，（0.12±0.03）ng/L vs（0.27±0.05）ng/L]（*P*<0.05）；血清 IL-10 水平显著低于对照组[（85.82±7.03）pg/mL vs（57.28±6.31）pg/mL]（*P*<0.05）；功能障碍指数（Oswestry disability index）显著低于对照组[（37.81±6.23）% vs（68.02±8.91）%]（*P*<0.05）；腰部关节活动度显著高于对照组[（80.36±0.82）° vs（71.27±0.6）°]（*P*<0.05）；两组不良反应对比无显著差异（*P*>0.05）。**结论：**针灸、推拿及中药外敷对腰椎间盘突出的临床疗效显著，可有效改善患者的临床症状，缓解疼痛，抑制炎症因子 TXB2、IL-1β 表达，促进抗炎因子 IL-10 水平升高，安全有效。

关键词：针灸；推拿；中药外敷；腰椎间盘突出；临床疗效；炎症反应

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Clinical Effect of Acupuncture, Massage and External Application of Traditional Chinese Medicine on Lumbar Disc Herniation and Comparison of Serum TXB2, IL-1β and IL-10 Levels*

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ABSTRACT Objective: To study the clinical effect of acupuncture, massage and external application of traditional Chinese medicine on lumbar disc herniation and comparison of serum TXB2, IL-1 β and IL-10 levels. **Methods:** 80 lumbar disc protrusion who received therapy from January 2019 to December 2020 in our hospital were selected as research objects. According to random number table，those patients were divided into the observation group (n=41) and the control group (n=39). The control group was treated with external application of traditional Chinese medicine. The observation group was treated with acupuncture, massage and external application of traditional Chinese medicine. The therapeutic effects, JOA and VAS scores, serum TXB2, IL-1 β and IL-10 levels, lumbar function and lumbar joint range of motion, and the incidence of adverse reactions were compared between the two groups. **Results:** After treatment, The total effective rate of observation group was significantly higher than that of control group [95.12%(39/41) vs 71.79% (28/39)](*P*＜0.05). JOA was significantly higher than that of the control group[(23.19±3.21)scores vs (17.62±2.65)scores](*P*＜0.05). VAS score was significantly lower than that of the control group[(2.07±0.38)scores vs(3.58±0.61)scores] (*P*＜0.05). The levels of TXB2 and IL-1 β in serum were significantly lower than those in control group [(24.37±3.26) μg/L vs (34.08±4.72) μg/L, (0.12±0.03) ng/L vs (0.27±0.05) ng/L] (*P*＜0.05). Serum IL-10 level was significantly lower than that of the control group [(85.82±7.03) pg/mL vs (57.28± 6.31) pg/mL] (*P*<0.05). Oswestry score was significantly lower than that of the control group[(37.81±6.23)% vs(68.02±8.91)%] (*P*<0. 05). The range of motion of the lumbar joint was significantly higher than that of the control group [(80.36±0.82)° vs (71.27±0.6)°]

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(*P*<0.05). There was no significant difference in adverse reactions between the two groups (*P*>0.05). **Conclusion:** Acupuncture, massage and external application of traditional Chinese medicine have significant clinical effect on lumbar disc herniation, which can effectively improve the clinical symptoms of patients, relieve pain, inhibit the expression of inflammatory factors TXB2 and IL-1 β, and promote the level of anti-inflammatory factor IL-10, which is safe and effective.

Key words: Acupuncture; Massage; External application of traditional Chinese Medicine; Lumbar disc protrusion; Clinical effect; Inflammatory reaction

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前言

腰椎间盘突出是属于退行性疾病,临床表现为腰痛、下肢放射痛、马尾神经症状等,患者多有长期坐位及弯腰劳动,临床研究表明[1,2],主要是由腰椎间盘各部分出现不同程度的退行性改变,加上外力的作用下,导致椎间盘纤维环出现破裂,且髓核级组织从破裂处脱出,从而对患者的神经根造成压迫。研究表示[3],腰椎间盘组织突出后会出现明显的炎性反应,其水平表达显著高于正常人,其中血清血栓素(thromboxane,TXA2)、白细胞介素 -1β(Interleukin-1β)是介导椎间盘病变的主要因素,且具有促进炎症细胞聚集、激活及释放的作用,使患者感到疼痛。因此,临床认为[4],缓解患者的疼痛,消除临床症状提高预后是治疗的主要目标。目前临床上多采用保守治疗,方法包含推拿、针灸、中药口服等,具有操作简单、安全有效等特点[5]。本研究旨在探讨针灸、推拿及中药外敷对腰椎间盘突出的临床疗效及其作用机制。

1 资料与方法

1.1 一般资料

选取 2019 年 1 月至 2020 年 12 月 80 例腰椎间盘突出患者,均符合《中医病证诊断疗效标准》诊断标准。纳入标准[6]:近期未采用其它药物及方法治疗;合并下肢麻木、反射减弱;配合研究者;排除标准:非椎间盘源性腰腿痛者;患有其他严重疾病;过敏体质;妊娠期或哺乳期者;心肝肾严重异常者;伴有严重的骨质疏松;患有凝血功能障碍。按照简单随机数表法分为观察组(n=41)和对照组(n=39),观察组男 23 例,女 18 例,年龄 29～75 岁,平均(46.92±12.60)岁,病程 1 d～10 个月,平均病程(6.02±1.19)个月;对照组男 34 例,女 31 例,年龄 30～75 岁,平均(47.03±12.65)岁,病程 2 d～10 个月,平均病程(6.08±1.23)个月。本研究经医学伦理会批准,患者均知情并签署知情同意书,两组一般资料均无显著差异(*P*>0.05)。

1.2 方法

对照组采用功能训练、腰椎牵引及卧床休息等常规治疗,中药外敷, 成分包含:18 g 透骨草,12 g 川芎,12 g 当归,15 g 防风,15 g 红花,12 g 牛膝,15 g 川乌,15 g 乳香,15 g 没药,12 g 羌活,10 g 独活,10 g 细辛,8 g 肉桂。将药物碾成粉末后加入适当的蜂蜜及松节油,混合调制成糊状敷于患处,每次敷 24 h,2 天一次,10 天为一个疗程,治疗疗程为 20 d。

观察组在对照组的基础上采用针灸推拿治疗, 先进行推拿,患者取俯卧位,从上到下滚揉腰部脊柱,用拇指按压腰骶部,连续拍打下肢,肾盂、腰阳关、阿是穴等采用肘尖或拇指点压,至患者感到酸胀,逐渐提高按压的强度;指导患者取侧卧位,采用腰部斜扳法调节患者后关节紊乱,关节肌肉粘连进行松解,改善患者神经根和突出物病理状态;指导患者取俯卧位,自患者腰部到患侧坐骨神经区域采用按揉、拿、滚、弹拨等理筋手法推拿。针灸:指导患者取俯卧位,对患者肾俞、阳陵泉、承山、委中、环跳、夹脊、腰俞进行常规消毒铺巾,垂直进针,每 10 min 捻转 1 次,留针 30 min,每天 1 次,10 天为一个疗程,1 个疗程后间隔 2 天进行第 2 疗程,共治疗 2 个疗程。

1.3 观察指标

观察两组治疗效果,治疗前后日本骨科协会评估治疗分数(Japanese Orthopaedic Association Scores JOA)、视觉模拟评分法(visual analogue scale VAS)评分情况变化,血清 TXB2、IL-1β、白细胞介素 -10(Interleukin-10 IL-10)水平变化,腰椎功能及腰部关节活动度,不良反应发生率。分别于两组治疗前后采用 JOA 量表评估患者的主观症状(自觉症状、日常生活动作、临床检查及膀胱功能),分值为 0～29 分,分数越高表明患者的主观症状越轻;采用 VAS 量表评估患者的疼痛程度,分值为 0～10 分,分数越高表明患者的疼痛程度越严重;分别于两组治疗前后采集静脉血,离心分离血清后等待检测,采用酶联免疫吸附法检测血清 TXB2、IL-1β、IL-10 水平; 采用功能障碍指数(Oswestry disability index)量表评估患者的腰椎功能,分值为 0～5 分,分数越低表明患者的腰椎功能恢复的越好。

疗效评定标准:腰腿疼痛消失,可直腿抬高 70° ,不影响日常生活为显效[7]。腰腿疼痛明显缓解,腰部功能改善为有效;以上指标均未改善或加重为无效。

1.4 统计学分析

使用 SPSS18.0 统计软件进行统计,数据均符合正态分布,计数资料以[(例)%]表示,用 χ^2 检验比较,计量资料以($\bar{x}\pm s$)表示,采用 t 检验,组内比较使用配对样本 t 检验,采用 *P*<0.05 为差异有统计学意义。

2 结果

2.1 两组治疗效果情况

观察组总有效率显著高于对照组(*P*<0.05),见表 1。

2.2 两组 JOA、VAS 评分情况变化

两组治疗前 JOA、VAS 评分均无显著差异(*P*>0.05),治疗后,两组 JOA 评分均较治疗前显著上升,VAS 评分较治疗前显著降低 (*P*<0.05), 两组治疗后 JOA、VAS 评分具有显著差异(*P*<0.05),见表 2。

2.3 两组血清 TXB2、IL-1β、IL-10 水平变化

两组治疗前血清 TXB2、IL-1β、IL-10 水平均无显著差异

（P>0.05），治疗后，两组血清 TXB2、IL-1β 水平均较治疗前显著降低，IL-10 水平较治疗前显著上升（P<0.05），两组治疗后血清 TXB2、IL-1β、IL-10 水平具有显著差异（P<0.05），见表 3。

表 1 两组治疗效果情况[例(%)]

Table 1 treatment effect of two groups[n(%)]

Groups	n	Remarkable effect	valid	invalid	Total effective rate
Observation group	41	29(70.73)	10(24.39)	2(4.88)	39(95.12)
Control group	39	19(48.72)	9(23.08)	11(28.21)	28(71.79)

表 2 两组 JOA、VAS 评分情况变化（$\bar{x}\pm s$，分）

Table 2 Changes of JOA and VAS scores in the two groups（$\bar{x}\pm s$, scores）

Groups	n	JOA		VAS	
		Before treatment	After treatment	Before treatment	After treatment
Observation group	41	9.78±1.32	23.19±3.21	7.10±1.05	2.07±0.38
Control group	39	9.81±1.35	17.62±2.65	7.03±1.03	3.58±0.61

Note: compared with before treatment,*P<0.05.

表 3 两组血清 TXB2、IL-1β、IL-10 水平变化（$\bar{x}\pm s$）

Table 3 Changes of serum TXB2, IL-1 β and IL-10 levels in two groups（$\bar{x}\pm s$）

Groups	n	TXB2(μg/L)		IL-1β(ng/L)		IL-10(pg/mL)	
		Before treatment	After treatment	Before treatment	After treatment	Before treatment	After treatment
Observation group	41	39.87±5.09	24.37±3.26	0.41±0.06	0.12±0.03	35.68±5.39	85.82±7.03
Control group	39	39.73±5.02	34.08±4.72	0.46±0.08	0.27±0.05	36.01±5.72	57.28±6.31

Note: compared with before treatment,*P<0.05.

2.4 两组腰椎功能及腰部关节活动度对比

观察组 Oswestry 显著低于对照组，腰部关节活动度显著高于对照组（P<0.05），见表 4。

表 4 两组腰椎功能及腰部关节活动度对比（$\bar{x}\pm s$）

Table 4 Comparison of lumbar function and range of motion between the two groups（$\bar{x}\pm s$）

Groups	n	Oswestry(%)	Range of motion of lumbar joint (°)
Observation group	41	37.81±6.23	80.36±0.82
Control group	39	68.02±8.91	71.27±0.6

2.5 两组不良反应对比

两组不良反应对比无显著差异（P>0.05），见表 5。

表 5 两组不良反应对比（$\bar{x}\pm s$）

Table 5 Comparison of adverse reactions between the two groups（$\bar{x}\pm s$）

Groups	n	Skin redness, swelling and itching	Syncope	Nausea and vomiting	dizzy	Total incidence
Observation group	41	1(2.44)	1(2.44)	1(2.44)	1(2.44)	4(9.76)
Control group	39	2(5.13)	0(0.00)	2(5.13)	3(7.69)	7(17.95)

3 讨论

腰椎间盘突出是临床上常见的骨科疾病，发病率和复发率较高，患者小关节变形，椎体局部疼痛，研究发现[8]，腰椎间盘突出可能会引起局部水肿，导致骨质代谢性增生和血液循环障碍，严重影响了患者的日常生活。随着社会老龄化的发展，该病的发生率也越来越多，且呈年轻化的趋势发展，腰腿疼痛已成为广泛关注的问题[9]。

中医认为[10,11]，腰椎间盘突出属于＂腰痛、痹证＂等范畴，主要发病机制在于肾气亏虚，风寒外邪、阳气不足，使得患者气滞血瘀，经脉阻滞，不通则痛。临床以理气止痛、温经活络、活血化瘀为治疗之契机[12]。本研究中采用的中药外敷的成分中，透骨草具有祛风，除湿，舒筋，活血，止痛的功效；川芎能够活血祛瘀、行气开郁、祛风止痛；当归活血化瘀；防风祛风解表；红花有

活血通经、祛瘀止痛的作用;牛膝能够活血祛瘀、补肝肾;川乌具有祛风除湿,温经止痛的功效;乳香可活血止痛、行气;没药活血止痛、散血祛瘀;羌活性温,可解表散寒、祛风除湿、止痛;独活、细辛能够祛风除湿、散寒止痛;肉桂可补火助阳、散寒止痛、温通经脉[13-16]。诸药合用,具有活血化瘀、祛风散寒、止痛、温经通络及补肾强骨的功效[17]。两组采用中药外敷后临床症状均得到改善。说明了中药外敷在治疗腰椎间盘突出具有一定的疗效。

针灸是将毫针在一定的角度刺入患者体内,对人体特定部位进行刺激,从而来达到治疗疾病的目的[18]。临床研究表明[19],针灸能够使患者活血行气、通经止痛。对人体夹脊穴进针,可刺激患者的脊神经,消炎镇痛;对人体阳陵泉进针,能够疏通患者的经络,理气止痛。相关研究表明[20],针灸能够减轻水肿,促进血液微循环,恢复患者神经功能,抑制炎症。

推拿为一种非药物的自然疗法、物理疗法,以推、拿、按、摩、揉、捏、点、拍等形式多样的手法和力道来进行治疗,具有操作简单无副作用的特点,具有良好的治疗效果[21]。以中医的脏腑及经络学说为理论基础,结合西医的解剖和病理诊断,作用于人体特定部位来调节改善机体的病理状况 [22]。在近几十年来, 更多的科研机构对推拿机理进行研究并取得了一定的成绩,目前推拿疗法已收到了全世界的重视[23]。在《黄帝内经》里说:" 经络不通;病生于不仁,治之以按摩 ",说明了推拿具有疏通经络的作用。临床研究表明[24],推拿能够舒经活络、消肿止痛、调整复位,缓解腰椎疼痛,消肿,促进关节及脊柱生物力学恢复。在 Haddadi K[25]等作者的研究中表明,推拿可以增强血液循环,减轻水肿,解除神经压迫,恢复受损的腰椎间盘功能。本研究显示,采用联合针灸推拿治疗的患者临床症状、JOA、VAS评分,腰椎功能、腰部关节活动度及治疗疗效均显著优于采用单独中药外敷的患者。说明了联合针灸推拿治疗能够提高治疗疗效,改善患者的腰椎功能,改善生活能力。且本研究治疗期间两组均未出现严重的不良反应。

临床研究表明[26],腰椎间盘损伤能够刺激化学物质,诱发局部炎症反应,使患者感到剧烈的疼痛。有研究认为[27],炎性介质在腰椎间盘的发展及腰部炎症具有关键的作用。腰椎间盘突出患者体内会出现压迫性出血, 可促进血小板活化, 释放 TXB2, 血清 TXB2 是前列腺素中的一种, 与前列腺素作用相反,具有凝聚血小板及收缩血管的作用,可诱发病灶组织出现缺氧缺血的症状[28]。IL-1β 使炎症形成的中心环节,属于强力致痛物质,在正常的腰椎间盘组织中无表达,参与腰椎间盘退变过程,且为关键因子[29]。IL-10 属于抗炎因子,是一种多效性细胞因子,具有双向免疫调节作用[30]。本研究显示,采用联合针灸推拿治疗的患者血清 TXB2、IL-1β 水平均显著低于采用单独中药外敷的患者,IL-10 水平显著高于采用单独中药外敷的患者。说明了联合针灸推拿治疗能够更进一步抑制炎症介质释放,促进抗炎因子生成,防止进一步腰椎间盘退变。

综上所述,针灸、推拿及中药外敷对腰椎间盘突出的临床疗效显著,可有效改善患者的临床症状,缓解疼痛,抑制炎症因子 TXB2、IL-1β 表达,促进抗炎因子 IL-10 水平升高,安全有效。

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（上接第 2646 页）

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