

综合康复干预与手术治疗反复发作腰椎间盘突出症患者的疗效对比观察

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【摘要】 目的 对比观察综合康复干预与手术治疗反复发作腰椎间盘突出症患者的疗效。**方法** 选取入住北京军区总医院骨科的 62 例反复发作腰椎间盘突出症且拒绝手术治疗患者纳入实验组;另选取同期在我院脊柱外科病区行手术治疗的同质患者 62 例纳入对照组。实验组患者给予综合康复干预,包括药物、物理因子治疗、核心肌群训练等,对照组患者均接受单节段髓核摘除、椎间植骨融合内固定手术治疗。于入院时、出院时、出院后 3 个月及 1 年时对 2 组患者腰痛、下肢痛及腰椎功能恢复情况进行评定,于入院时、出院后 3 个月时对 2 组患者焦虑、抑郁情绪进行评定。**结果** 2 组患者出院时、出院 3 个月及 1 年时其腰痛和下肢痛评分均明显低于入院时水平,并且各时间点 2 组患者腰痛及下肢痛评分组间差异均无统计学意义($P>0.05$);2 组患者出院时、出院 3 个月及 1 年时其腰椎 Oswestry 功能障碍指数(ODI)评分均明显低于入院时水平,并且各时间点 2 组患者 ODI 指数评分组间差异均无统计学意义($P>0.05$)。入院时 2 组患者焦虑、抑郁评分组间差异均无统计学意义($P>0.05$);出院时 2 组患者焦虑、抑郁评分均较入院时明显降低($P<0.05$),并且实验组患者抑郁评分亦显著优于对照组水平($P<0.05$)。**结论** 综合康复干预较手术治疗能进一步改善反复发作腰椎间盘突出症患者抑郁情绪;2 组患者在疼痛、腰椎功能改善方面,虽然手术治疗具有优于综合康复干预的趋势,但 2 组间差异无统计学意义($P>0.05$),提示对于反复发作的腰椎间盘突出症患者可首选综合康复干预,当综合康复干预无效时则建议选择手术治疗。

【关键词】 腰椎间盘突出症; 康复治疗; 手术治疗; 核心肌力训练

基金项目:国家自然科学基金资助(81171862)

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【Abstract】 Objective To compare the effectiveness of comprehensive rehabilitation therapy with that of surgical intervention for patients with recurrent lumbar disc herniation (LDH). **Methods** A total of 124 LDH patients were recruited and randomly divided into an experimental group and a control group, each of 62. The experimental group was given comprehensive rehabilitation consisting of medicine, physical therapy, and spinal stabilization exercises, while the control group received lumbar spine surgery. The patients' back and leg pain scores and their Oswestry Disability Index (ODI) scores were compared at admission and discharge, as well as 3 and 12 months after discharge. Anxiety and depression were also assessed at admission and 3 months after discharge. **Results** At discharge and 3 and 12 months later the average back and leg pain scores and ODI ratings were significantly lower than that at admission for both groups. There were no significant inter-group differences. In terms of anxiety and depression, however, these had decreased significantly in both groups, but the experimental group's average rating was significantly better at discharge. **Conclusions** Comprehensive rehabilitation is superior to surgical intervention in relieving the depression of patients with recurrent LDH. Comprehensive rehabilitation should be considered as the first choice for patients with recurrent LDH, and only supplemented by surgical intervention if it is not effective.

【Key words】 Lumbar discs; Herniation; Rehabilitation; Surgery

Fund program: Natural Science Foundation of China (grant 81171862)

反复发作的腰椎间盘突出症是诱发慢性腰背痛最

常见原因之一,不仅引起相应神经支配区感觉、运动功能障碍,而且还能导致患者心理、社会功能受损^[1];尽管临床对于反复发作的腰椎间盘突出症患者多推荐手术治疗,但大部分患者仍选择保守治疗^[2]。康复治疗是腰椎间盘突出症最主要治疗方法,包括健康教育、手

DOI:10.3760/cma.j.issn.0254-1424.2017.07.010

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法治疗、药物、硬膜外注射、物理因子治疗、运动疗法等。近期系统 Meta 分析显示:虽然不同种类的康复治疗方法均可取得一定疗效,但缺乏针对各种方法长期疗效的观察,尤其是缺乏不同康复方法有机结合治疗腰椎间盘突出症的疗效研究^[3]。

大量文献表明,核心稳定性训练可改善因多种原因所致慢性腰背痛患者疼痛、病情及机体功能^[5-7],减少复发^[8]。核心稳定性练习主要指针对机体核心部位(上至肋弓、下至骨盆部位)的稳定性练习,除了腰部深部肌肉练习外,还包括腰、骨盆、髋部肌肉练习等^[4]。本研究针对反复发作的腰椎间盘突出症患者,在急性发作期给予药物、物理因子干预,待疼痛减轻后给予核心稳定性训练,发现临床疗效与手术治疗相当,现报道如下。

对象与方法

一、对象与分组

选取 2012 年 4 月至 2013 年 2 月期间在北京军区总医院治疗的腰椎间盘突出症患者为研究对象,患者纳入标准包括:均符合腰椎间盘突出症诊断标准^[9];年龄 18-65 岁,病程大于 2 年,每年至少发作 2 次以上;入选前未行手术治疗,入院后拒绝手术治疗,要求康复治疗并能积极配合。患者剔除标准包括:伴有脊柱椎弓峡部裂、腰椎滑脱、腰椎管狭窄症、腰椎关节突关节紊乱、腰椎结核、脊柱脊髓肿瘤等病变或风湿性、类风湿性关节炎等疾病^[10];合并有高血压病、糖尿病及心、脑、肺、肝、肾等疾病;伴有认知功能障碍;行多节段椎间盘摘除椎间植骨融合内固定等情况。选取符合上述纳入标准的腰椎间盘突出症患者纳入实验组,另外本研究同期选取在我院骨科脊柱外科病区进行腰椎融合内固定术的同质患者并纳入对照组。所有患者均对本研究知情同意并签字,同时本研究也通过北京军区总医院伦理委员会审核批准。

二、干预方法

实验组患者入院后经明确诊断、系统评价后即给予如下治疗:①药物治疗,住院期间给予七叶皂甙钠静滴以减轻神经根水肿、改善微循环,给予腺苷钴胺肌肉注射以营养神经,出院后口服甲钴胺持续 3 个月;②物理因子干预,给予中频电治疗及半导体激光腰部照射;③核心稳定性训练,入院后 3~5 d 待患者腰痛及下肢痛减轻后即开始,住院期间主要指导患者进行腹横肌、多裂肌激活练习,同时配合下肢肌肉耐力练习、四肢及躯干肌肉牵伸练习等,每周训练 5 次;出院前指导患者进行仰卧位臀桥练习,出院后 1 个月内继续进行上述练习,每周练习 3 次;出院后第 2 个月除继续上述练习外,开始指导患者在日常生活、工作中应用腹横肌、多

裂肌激活技术以保持脊柱中立位、腹部中空、收腰,并指导患者进行仰卧位单桥、屈膝侧桥、伸膝侧桥练习、俯卧位鸟狗练习;出院第 3 个月在上述练习基础上指导患者进行俯卧位平板训练,对于平板支撑训练能持续 10 s 且能重复训练 5 次者,指导其逐步过渡到利用健身球进行上述练习,每周练习 3-4 次。出院第 1 个月患者每周来医院 1 次并在治疗师指导下进行练习,以后则每月来医院 1 次接受治疗师指导。

对照组患者药物治疗同实验组,术后麻醉消退后即接受常规康复指导,循序渐进开展康复锻炼,具体训练内容包括下肢肌力练习(从静力性练习逐步过渡到动力性练习)、患肢直腿抬高练习、腰背肌练习(从静力性练习逐步过渡到仰卧臀桥练习)、体位变换练习、平衡练习和站立练习等,每次训练持续 10~30 min,每周训练 5 次;出院时指导患者在家中以下训练,包括直腿抬高练习、仰卧臀桥练习、五点支撑练习、腹肌练习和腰背部伸展训练等,每周训练 3~4 次。

实验组康复干预由一位康复医师及一位治疗师负责,对照组手术治疗均由我科脊柱外科病区同一位医师及其带领的医疗小组完成,康复指导由该病区同一位康复治疗师负责;2 组患者康复周期均为 3 个月。

三、疗效评定标准

于入院时、出院时、出院后 3 个月时由同一位对分组不知情医师分别采用视觉模拟评分法(visual analogue score, VAS)^[11]、Oswestry 功能障碍指数(Oswestry disability index, ODI)^[12,13]对 2 组患者腰痛、下肢痛及腰椎功能进行评定,于入院时、出院时分别采用 Zung 焦虑自评量表^[14]和 Zung 抑郁自评量表^[15]对 2 组患者焦虑及抑郁情绪进行评定;于出院 1 年后通过电话对患者腰痛、腿痛及腰椎功能恢复情况进行随访。

四、统计学分析

本研究采用 SPSS 13.0 版统计学软件包进行数据分析,采用独立样本 t 检验对 2 组患者不同时间点各疗效指标评分进行对比分析;组内干预前、后各时间点对比采用单因素方差分析及多重组间比较分析, $P < 0.05$ 表示差异具有统计学意义。

结 果

一、入选患者一般资料情况分析

本研究实验组共纳入患者 62 例,其中 1 例患者因故在住院康复治疗过程中改行手术治疗,8 例患者因锻炼次数少于 2 次/周或锻炼周期小于 2 个月而被剔除,共有 53 例患者完成系统康复治疗,但有 5 例出院后 1 年时因电话无法接通而失访。对照组共入选患者 60 例,其中出院后 3 个月时失访 9 例,出院后 1 年时失访 19 例。最终实验组和对照组分别有 48 例、32 例

患者纳入分析。2 组患者一般资料情况详见表 1。表中数据经统计学比较,发现 2 组患者年龄、住院周期组间差异均无统计学意义 ($P>0.05$),但 2 组女性患者平均年龄均大于男性平均年龄 ($P<0.05$)。

表 1 2 组患者一般资料情况比较

组别	例数	性别(例)		年龄(岁, $\bar{x}\pm s$)	
		男	女	男性	女性
实验组	48	34	14	41.3±11.6	43.9±12.5
对照组	32	26	6	40.1±10.3	43.08±11.9

组别	例数	住院周期 (d, $\bar{x}\pm s$)	椎间盘突出责任节段(例)			
			L _{2/3}	L _{3/4}	L _{4/5}	L _{5/S₁}
实验组	48	8.7±2.9	1	6	17	24
对照组	32	7.3±2.3	0	0	14	18

二、2 组患者疼痛评分比较

2 组患者出院时、出院后 3 个月、出院 1 年后其腰痛、下肢痛评分均较入院时明显降低 ($P<0.05$),各时间点 2 组患者腰痛、下肢痛评分组间差异均无统计学意义 ($P>0.05$)。上述结果表明药物、物理因子配合核心稳定性训练或手术治疗均可明显改善腰椎间盘突出症患者腰痛及腿痛病情,且两者疗效无明显差异。具体数据表 2。

表 2 出院后不同时间点 2 组患者腰部及下肢痛评分比较(分, $\bar{x}\pm s$)

组别	例数	腰痛评分			
		入选时	出院时	出院 3 个月时	出院 1 年时
实验组	48	5.81±3.11	2.59±1.41 ^a	2.19±3.44 ^a	1.66±1.15 ^{ab}
对照组	32	5.42±2.40	2.33±1.28 ^a	1.65±1.36 ^{ab}	1.63±1.29 ^{ab}

组别	例数	下肢痛评分			
		入选时	出院时	出院 3 个月时	出院 1 年时
实验组	48	6.78±2.59	1.75±1.67 ^a	0.97±1.06 ^{ab}	0.69±0.93 ^{ab}
对照组	32	6.69±2.17	1.71±1.27 ^a	0.52±1.01 ^a	0.42±0.82 ^{ab}

注:与组内入选时比较,^a $P<0.05$;与组内出院时比较,^b $P<0.05$

三、2 组患者腰椎功能评分比较

2 组患者出院时、出院后 3 个月、出院 1 年后其腰椎 ODI 评分均较入院时明显降低 ($P<0.05$);出院 1 年后实验组患者腰椎 ODI 评分较对照组有增高趋势,但上述各时间点两组 ODI 评分组间差异均无统计学意义 ($P<0.05$)。具体数据见表 3。

表 3 出院后不同时间点 2 组患者腰椎 ODI 评分比较(分, $\bar{x}\pm s$)

组别	例数	入选时	出院时	出院 3 个月时	出院 1 年时
实验组	48	71.72±25.02	59.69±23.31 ^a	28.31±13.99 ^{ab}	12.66±6.93 ^{abc}
对照组	32	68.89±19.39	53.92±17.16	26.38±11.57 ^{ab}	15.19±8.64 ^{abc}

注:与组内入选时比较,^a $P<0.05$;与组内出院时比较,^b $P<0.05$;与组内出院 3 个月时比较,^c $P<0.05$

四、2 组患者焦虑及抑郁评分比较

入院时 2 组患者焦虑、抑郁评分组间差异均无统计学意义 ($P>0.05$);出院时 2 组患者焦虑、抑郁评分

均较入院时明显降低 ($P<0.05$),并且实验组患者抑郁评分亦显著优于对照组水平 ($P<0.05$),具体数据见表 4。

表 4 入院及出院时 2 组患者抑郁、焦虑评分比较(分, $\bar{x}\pm s$)

组别	例数	焦虑评分		抑郁评分	
		入选时	出院时	入选时	出院时
实验组	48	45.44±9.67	37.78±6.89 ^a	49.06±8.53 ^a	40.59±7.87 ^{ab}
对照组	32	45.29±9.62	37.53±6.39 ^a	48.31±8.19 ^{ab}	43.65±8.04 ^a

注:与组内入选时比较,^a $P<0.05$;与对照组比较,^b $P<0.05$

讨 论

本研究将接受单节段椎间盘突出摘除椎间植骨融合内固定术治疗的椎间盘突出症患者纳入对照组,并与综合康复干预(包括药物、物理因子疗法及核心稳定性训练)治疗椎间盘突出症的疗效进行对比,结果显示综合康复干预与椎间盘突出摘除椎间植骨融合内固定术均能明显改善椎间盘突出症患者腰腿痛症状及腰椎功能,并且综合康复干预还能进一步改善患者抑郁情绪。

腰痛及下肢痛是椎间盘突出症患者最显著症状之一。本研究结果显示:综合康复干预与手术治疗均能明显改善患者腰痛及下肢疼痛,并以下肢痛的改善幅度尤为明显,但无论是腰痛或是下肢痛,患者经手术治疗后其疼痛缓解程度均较综合康复干预有进一步改善趋势,但两者间差异并无统计学意义 ($P>0.05$),与 Weinstein 等^[16-17] 研究结果基本一致。但 William 等^[18] 研究结果显示:无论是何种类型椎间盘突出症患者,手术对其腰痛症状的改善效果均明显优于给予康复干预的对照组。对比上述文献报道数据,本研究认为其结果差异可能缘于各研究所采用康复方案不同所致。上述研究采用的康复治疗方法主要包括物理因子治疗、非甾体类消炎药、健康教育、家庭个体化锻炼咨询等,而本研究则采用脱水及营养神经药物、物理因子疗法及系统核心稳定性训练进行干预,尤其是核心稳定性训练,患者出院后每周至少来医院 1 次由专业人员指导其康复锻炼,其效果可能优于家中自行练习。如有研究对比后发现,在医疗机构中进行核心肌群训练的疗效明显优于在家中类似训练^[19]。本研究认为实验组患者的康复治疗机制主要包括:①在椎间盘突出急性期理疗可消炎、止痛,药物干预可改善神经根水肿及局部微循环、营养供给等,从而明显缓解疼痛;②待疼痛减轻后通过核心稳定性训练可逆转多裂肌萎缩、促进腹横肌募集、激活^[20]、增强核心肌群本体感、肌力及腰椎稳定性等,进一步缓解疼痛、改善腰椎功能。本研究在治疗过程中发现,实验组患者一般在

入院后 3 d 时腰腿痛评分即出现缓解,入院 5 d 时进一步缓解,此时绝大部分患者可开展核心稳定性训练,出院时其疼痛评分较入院时明显降低,而腰椎 ODI 评分虽在患者出院时较入院时明显降低,但变化幅度最大是发生在出院后 3 个月期间,表明核心稳定性训练能进一步缓解患者疼痛、提高腰椎功能;另外在出院后 12 个月时实验组患者腰椎 ODI 评分较对照组有降低趋势,进一步提示长期核心稳定性练习可改善腰椎间盘突出患者预后状况,这与其他研究结果基本一致^[5,7]。

相关研究显示,腰椎间盘突出症患者常伴有焦虑、抑郁情绪^[21-23]。本研究结果显示,入院时实验组及对照组分别有 40.6%、43.8% 的患者存在不同程度焦虑情绪,出院后实验组及对照组仅有 9.4%、8.3% 的患者存在轻度焦虑,且 2 组患者焦虑评分无明显差异,表明综合康复干预与手术治疗均能改善腰椎间盘突出患者焦虑情绪。有研究报道,手术治疗能明显缓解腰椎间盘突出患者焦虑情绪,但术后抑郁患者数量明显增加^[22]。本研究 2 组患者抑郁状态改善情况则呈现不同特点,如入院时对照组、实验组分别有 37.5%、39.6% 的患者存在抑郁,出院时发现实验组患者抑郁评分较对照组明显降低,对照组和实验组仍分别有 28.1%、22.9% 的患者存在抑郁,其中实验组患者均为轻度抑郁,而对照组中仍有 6.3% 的患者存在中度抑郁;提示综合康复干预较手术治疗能进一步改善腰椎间盘突出患者抑郁状态。其治疗机制可能与较长时间的核心理论训练有关。如已有研究显示,早期进行有氧运动练习能明显改善单节段腰椎切除术后患者焦虑、抑郁状态^[22]。关于运动干预改善负性情绪的机制目前尚未明确,初步研究显示可能与运动能促进脑内内啡肽类物质分泌有关,其确切机制还有待进一步探讨。

综上所述,本研究结果表明,综合康复干预与手术治疗均能缓解反复发作的腰椎间盘突出症患者腰痛及下肢痛,改善腰椎功能及焦虑、抑郁情绪,且综合康复干预较手术治疗能进一步降低患者抑郁评分,提示对于反复发作的腰椎间盘突出症患者,综合康复干预仍可作为首选治疗方法,对于经综合康复治疗无效的患者,则建议选择手术治疗。另外需特别提出的是,本研究存在样本量较小、未对患者体重指数、病程等基本资料进行分析等缺陷,下一步研究应扩大样本量、延长随访时间、全面考虑体重指数、文化程度、经济状况、病程等各种因素对患者功能的影响。

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(修回日期: 2017-02-27)

(本文编辑: 易浩)

· 外刊撷英 ·

Endovascular treatment for stroke with large mismatch imaging profile

BACKGROUND AND OBJECTIVE When assessing patients with ischemic stroke for endovascular therapy or tPA, the ratio of hypoperfused to nonviable ischemic tissue is determined. From previous studies, appropriate candidates for endovascular intervention have a ratio of 1.8 or greater between critically hypoperfused and ischemic core, and a volume of ischemic core of 70 mL or less. This study assessed the benefits of treating patients with baseline ischemic cores of up to 150 mL.

METHODS Data were reviewed from a prospectively collected large vessel occlusion stroke database for patients with intracranial internal carotid artery and/or proximal middle cerebral artery occlusion on CT angiography, with a time from last known normal of less than 12 hours, baseline ischemic cores of greater than 50 mL and an absolute mismatch volume of 40 mL-150 mL. Patients undergoing endovascular treatment were compared with matched controls who did not receive this treatment.

RESULTS Data were included from 28 patients in the intervention group and 41 in the control group. Endovascular therapy was significantly associated with a favorable shift in the 90 day modified Rankin scores [mRS ($P=0.04$)], with good outcomes in 0% of the controls and in 25% of the intervention group ($P=0.04$). The final infarct volumes were smaller in the intervention group (87 ml) than in the control group (242 ml). For the subgroup with ischemic volumes of greater than 70 ml, a significant improvement in final infarct volume was noted in the intervention group ($P<0.001$) with an insignificant trend towards better mRS in the treatment group. The 90 day mortality was numerically but not statistically lower in the treatment group.

CONCLUSION This study of patients with ischemic stroke found that for properly selected patients, endovascular therapy may benefit those with a large ischemic core and large mismatch profiles.

【摘自: Rebello LC, Bouslama M, Haussen DC, et al. Endovascular treatment for patients with acute stroke who have a large ischemic core and large mismatch imaging profile. JAMA Neurol, 2017, 74(1): 34-40.】

Exercises for Parkinson's disease

BACKGROUND AND OBJECTIVE While short-term exercise may improve health, well-being and function in patients with Parkinson's disease (PD), there is a lack of evidence of long-term benefits. This study was designed to better understand these benefits.

METHODS This phase II, randomized, controlled trial included patients with idiopathic PD, who were able to walk at least 100 m. The subjects were randomized to perform exercises or receive handwriting training, twice per week for six months. Exercise included 30 minutes of aerobic training followed by 30 minutes of resistance training. A control group underwent handwriting exercises, using workbooks at home. Outcome measures were performed at baseline, and at three, six and 12 months. The primary outcome measure was the two-minute walk test. Mobility was also assessed using the Timed Up and Go Test, the Nine Hole Peg Test and global motor function assessed using the Motor function assessed using the Motor Examination of the MDS-UPDRS (III).

RESULTS At 12 months, during the two-minute walk test, the exercise group was able to walk 144.6 m, while the control group walked 137.9 m ($P=0.06$). The largest effect was found on the MDS-UPDRS III at 12 months ($P<0.05$), indicating an improvement in motor symptoms ($P<0.05$). Small, statistically insignificantly better gains were found in the exercise group than in the control group in improvement in leg power, aerobic capacity and perceived health-related quality of life.

CONCLUSION This study of patients with Parkinson's disease suggests that twice weekly aerobic and resistance exercise may improve physical function.

【摘自: Collett J, Franssen M, Meaney A, et al. Phase II, randomized, controlled trial of a six-month self-managed community exercise program for people with parkinson's disease. J Neurol Neurosurg Psychiatry, 2017, 88(3): 204-211.】