· 论著 临床诊治 ·

针刺联合卒中单元康复治疗老年卒中后吞咽障碍临床观察

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【摘要】 **目的** 探讨针刺联合卒中单元康复治疗对卒中后吞咽障碍患者吞咽造影及表面肌电检查结果的影响。**方法** 纳入2019-02—2020-12在沧州市中心医院就诊的卒中后吞咽障碍患者106例进行前瞻性研究。采用双色球法将患者分为2组,每组53例。对照组行常规卒中单元康复治疗,观察组在此基础上加以针刺治疗。比较2组患者临床疗效、吞咽造影、表面肌电检查结果、生活质量、误吸性肺炎发生情况及不良反应发生情况。**结果** 观察组患者总有效率为90.57%,高于对照组的75.47%(P<0.05)。治疗后观察组进食清流质[(39.51±9.88)% vs (30.16±8.72)%]、浓流质[(42.05±9.38)% vs (34.86±8.33)%及糊状物[(42.18±12.08)% vs (36.35±11.37)%],咽腔收缩率均低于对照组(P<0.05)。治疗后观察组最大波幅大于对照组[(528.17±102.74) μV vs (715.88±149.56) μV],治疗后观察组吞咽时程低于对照组[(1.38±0.36) s vs (1.02±0.27) s],观察组生活质量得分高于对照组[(68.25±13.82)分 vs (74.88±16.91)分,P<0.05]。观察组未出现误吸性肺炎,对照组出现4例(7.55%),差异有统计学意义(P<0.05)。对照组未出现明显的不良反应,观察组出现1例(1.89%)晕针,2组比较差异无统计学意义(P>0.05)。**结论** 针刺联合卒中单元康复可提高卒中后吞咽障碍临床疗效,改善吞咽造影、表面肌电检查结果,提高生活质量,降低误吸性肺炎发生率且具有较高的安全性。

【关键词】 脑卒中;针刺;卒中单元康复治疗;卒中后吞咽障碍;吞咽造影;表面肌电
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Clinical observation of acupuncture combined with stroke unit rehabilitation in the treatment of patients with dysphagia after stroke

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【**Abstract**】 **Objective** To explore the effect of acupuncture combined with stroke unit rehabilitation on the results of swallowing angiography and surface electromyography in patients with dysphagia after stroke. **Methods** A prospective study was conducted on 106 patients with post-stroke dysphagia who were treated in Cangzhou Central Hospital from February 2019 to December 2020. The patients were divided into two groups by the two-color ball method, with 53 cases in each group. The control group received conventional stroke unit rehabilitation treatment, and the observation group received acupuncture treatment on this basis. The clinical efficacy, swallowing contrast, surface electromyography, quality of life, occurrence of aspiration pneumonia, and adverse reactions were compared between the two groups. **Results** The total effective rate of patients in the observation group was 90.57%, which was higher than 75.47% in the control group (P<0.05). After treatment, the observation group ate clear liquid ((39.51±9.88)% vs (30.16±8.72)%), thick liquid ((42.05±9.38)% vs (34.86±8.33)%) and paste ((42.18±12.08)% vs (36.35±11.37)%), and the pharyngeal cavity contraction rate were all lower than the control group (P<0.05). After treatment, the maximum amplitude of the observation group was

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greater than that of the control group ((528.17±102.74) μV vs 715.88±149.56) μV), the swallowing time course of the observation group after treatment was lower than that of the control group ((1.38±0.36) s vs 1.02±0.27) s), and the quality of life score of the observation group was higher than that of the control group ((68.25±13.82) points vs (74.88±16.91) points, $P<0.05$). There was no aspiration pneumonia in the observation group, 4 cases (7.55%) in the control group, the difference was statistically significant ($P<0.05$). There was no obvious adverse reaction in the control group, and 1 case (1.89%) in the observation group had fainting. There was no statistically significant difference between the two groups ($P>0.05$). **Conclusion** Acupuncture combined with stroke unit rehabilitation can improve the clinical efficacy of post-stroke dysphagia, improve the results of swallowing radiography and surface electromyography, improve the quality of life, reduce the incidence of aspiration pneumonia, and has high safety.

【Key words】 Stroke; Acupuncture; Stroke unit rehabilitation treatment; Dysphagia after stroke; Angiography of swallowing; Surface electromyography

无论是缺血性脑卒中还是出血性脑卒中都有损伤大脑皮质的风险，可导致患者口咽器官功能受损而出现以饮水呛咳、进食困难或呛咳为表现的吞咽功能障碍[1-3]。卒中后吞咽功能障碍不仅影响患者饮水、进食，还可引起吸入性肺炎、营养不良、窒息等严重并发症，使患者的病残率及病死率明显升高。卒中单元康复治疗是一种通过吞咽功能、吞咽技巧、冷刺激、进食训练等方法以增强患者咽部肌肉灵活性，提高咽部力量，促进吞咽反射的康复疗法，但因吞咽神经生理机制复杂，其涉及的生物机械学原理尚未完全清楚，因此该疗法的效果有限[4-5]。传统医学虽无卒中后吞咽困难一说，但根据该病的表现可将其归为“喑痱”“喉痹”的范畴[6]。针刺治疗对卒中后吞咽障碍效果显著，但该疗法机制尚不明确。本研究旨在观察针刺联合卒中单元康复治疗对卒中后吞咽障碍患者吞咽造影及表面肌电检查结果的影响。

1 资料与方法

1.1 一般资料 纳入2019-02—2020-12在沧州市中心医院就诊的卒中后吞咽障碍患者106例进行前瞻性研究。纳入标准：(1)西医诊断符合脑卒中的相关诊断[7]，并经CT或MRI等影像学检查确诊；(2)中医诊断符合《中药新药临床研究指导原则》[8]中风病的相关诊断；(3)患者经治疗后病情稳定且发病在6个月以内；(4)神志清醒，可配合进行相关治疗；(5)标准吞咽功能评定量表[9](standardized swallowing assessment，SSA)得分＞30分；(6)患者已知情并签署知情同意书。排除标准：(1)因神志不清、语言障碍无法配合治疗者；(2)合并心、肝、肾等重要脏器疾病者；(3)有皮肤感染等针刺禁忌证的患者；(4)因脊髓病变或其他外伤而引起的肌力障碍者。采用双色球法将患者分为2组，每组53例。对照组男32例，女21例；年龄60~80(71.09±0.33)岁；缺血性脑卒中37例，出血性脑卒中16例；轻度吞咽障碍31例，中度吞咽障碍22例。观察组男34例，女19例；年龄61~81(72.65±0.29)岁；缺血性脑卒中38例，出血性脑卒中15例；轻度吞咽障碍34例，中度吞咽障碍19例。2组一般资料比较差异无统计学意义($P>0.05$)。本研究已获我院伦理委员会审核通过(批件号：2013-008-01)。

1.2 方法 对照组行常规卒中单元康复治疗，内容主要包括：(1)吞咽功能及技巧训练：主要通过咽反射训练、空吞咽训练、咽部刺激训练、呼吸训练等方法对咽喉肌、面颊肌及舌肌进行针对性训练。同时嘱患者反复进行咳嗽、侧方吞咽肌声门上吞咽以训练患者声门闭合功能。(2)摄食训练：首先，选取进食的体位，可视患者的病情选择半卧位或半侧卧位，再根据患者情况选择食物的性状及进食量，最后，在进食过程中为减少呛咳或窒息的出现，指导患者轻抬甲状软骨将食物一并吞咽。(3)冷刺激治疗：以棉棒蘸取冰水在舌根、咽喉壁、软腭及腭弓处进行触碰刺激，10 min/次，3次/d。(4)视患者的病情给予心理治疗及健康教育。

观察组在此基础上加以针刺治疗，具体操作如下：采用华佗牌规格为0.30 mm×25 mm的一次性无菌针灸针在廉泉穴、廉泉左右旁开1寸进针1.2寸，针刺方向均向舌底；双侧风池、双侧翳风、双侧完骨均进针2.0~2.5寸，针刺方向为咽喉部；外金津、外玉液进针1.5~2.0寸，针刺方向为舌根，上述穴位进针后均留针30 min，每10 min进行一次捻转行针，隔天治疗一次。2组患者均在持续治疗4周后进行疗效评价。

1.3 评价指标 比较2组患者临床疗效、吞咽造影、表面肌电检查结果、生活质量、误吸性肺炎发生情况及不良反应发生情况。(1)临床疗效：显效：疗程结束后患者吞咽障碍症状消失，洼田饮水试验结果为1级或较治疗前提高3级；有效：疗程结束后吞咽困难

症状明显缓解，洼田饮水试验为2级或提高2~3级；无效：疗程结束后吞咽困难症状改善不明显甚至加重，洼田饮水试验仍为3级或以上[10]。(2)吞咽造影检查：治疗前及疗程结束后采用德国西门子公司生产的R200型数字胃肠X光机进行吞咽造影检查，分别让患者进食稀流质、浓流质及糊状的造影剂，进食后以侧位像、前后位像进行造影，以30帧/s速率记录吞咽过程，计算并比较治疗前后2组患者吞咽上述3种食物咽腔收缩率。(3)治疗前后采用南京伟思医疗科技有限公司生产的表面肌电分析系统四通道同步电极分别置双侧舌骨上、下肌群，嘱患者吞咽2 mL温水，记录各指标。(4)生活质量：治疗前后采用吞咽障碍生活质量量表[11]对生活质量进行评估，该量表共25个条目，每个条目1~5分，总得分25~125分，得分越高生活质量越好。(5)误吸性肺炎：患者有呼吸困难、发热表现，体格检查出现湿啰音，CT检查有肺部纹理增强表现，部分患者血常规检查可见白细胞偏高。(6)不良反应：记录2组患者不良反应发生情况。

1.4 统计学方法 采用SPSS 22.0统计学软件进行数据分析，计量资料组间比较采用独立样本t检验，组内比较采用配对t检验，计数资料采用χ^2检验，以$P<0.05$认为差异有统计学意义。

2 结果

2.1 2组患者临床疗效比较 观察组患者总有效率高于对照组(90.57% vs 75.47%)($P<0.05$)，见表1。

表1 2组患者临床疗效比较 [n(%)]

Table 1 Comparison of clinical efficacy between the two groups [n(%)]

组别	n	显效	有效	无效	总有效
对照组	53	18(33.97)	22(41.50)	13(24.53)	40(75.47)
观察组	53	29(54.72)	19(35.85)	5(9.43)	48(90.57)
χ^2值					4.283
P值					0.038

2.2 2组患者吞咽造影结果比较 治疗后2组患者进食清流质、浓流质及糊状物咽腔收缩率均明显下降，但观察组下降幅度更大($P<0.05$)，见表2。

表2 2组患者吞咽造影结果比较 ($\bar{x}\pm s$)

Table 2 Comparison of the results of swallowing angiography between the two groups ($\bar{x}\pm s$)

组别	n	清流质/%		浓流质/%		糊状物/%	
		治疗前	治疗后	治疗前	治疗后	治疗前	治疗后
对照组	53	61.09±17.28	39.51±9.88*	62.17±8.52	42.05±9.38*	72.16±11.52	42.18±12.08*
观察组	53	60.85±17.04	30.16±8.72*	61.97±9.03	34.86±8.33*	72.59±12.15	36.35±11.37*
t值		0.072	5.165	0.117	4.173	−0.187	2.558
P值		0.943	<0.001	0.907	<0.001	0.852	0.012

注：治疗前后比较，*$P<0.05$

2.3 2组患者表面肌电检查结果比较 治疗后2组患者最大波幅均明显升高，但观察组升高幅度更大；治疗后2组患者吞咽时程均明显下降，但观察组下降更明显($P<0.05$)。见表3。

表3 2组患者表面肌电检查结果比较 ($\bar{x}\pm s$)

Table 3 Comparison of the results of surface electromyography in the two groups ($\bar{x}\pm s$)

组别	n	最大波幅/μV		吞咽时程/s	
		治疗前	治疗后	治疗前	治疗后
对照组	53	319.72±51.08	528.17±102.74*	1.77±0.31	1.38±0.36*
观察组	53	322.05±47.93	715.88±149.56*	1.75±0.33	1.02±0.27*
t值		−0.242	−7.531	0.322	5.824
P值		0.809	<0.001	0.748	<0.001

注：治疗前后比较，*$P<0.05$

2.4 2组生活质量、误吸性肺炎发生情况比较 治疗后2组患者生活质量得分均明显升高，但观察组升高幅度更大。2组误吸性肺炎发生率比较差异有统计学意义($P<0.05$)，晕针发生情况比较差异无统计学意义($P>0.05$)，见表4。

表4 2组患者生活质量、误吸性肺炎发生情况比较

Table 4 Comparison of quality of life and incidence of aspiration pneumonia between the two groups of patients

组别	n	生活质量/(分，$\bar{x}\pm s$)		误吸性肺炎/[n(%)]	晕针/[n(%)]
		治疗前	治疗后		
对照组	53	56.18±9.27	68.25±13.82*	4(7.55)	0
观察组	53	55.94±10.03	74.88±16.91*	0	1(1.89)
t/χ^2值		0.128	−2.210	4.157	1.010
P值		0.898	0.029	0.041	0.315

3 讨论

脑卒中为神经内科常见疾病，据调查脑卒中患者吞咽困难发生率为51%~73%。目前，现代医学对于脑卒中后吞咽障碍的发病机制尚未完全明确，普

遍认为与双侧运动皮层及其发出的皮质脑干束上的运动神经元受损有关[12]，上述改变可致运动神经元失去对延髓运动性脑神经核-疑核及脑桥三叉神经运动核的支配而影响中枢功能，导致患者出现舌、软腭、咽喉等部位肌肉的瘫痪有关[13-15]。对于脑卒中后吞咽障碍的治疗，目前主要为康复训练，对摄食-吞咽活动相关的器官进行训练，以维持、改善各器官的活动。虽然该疗法可一定程度改善患者的吞咽功能，但效果有限[16-17]。

传统医学对于喉痹、喑痱等疾病的治疗积累很多经验，中医认为此类疾病病位在脑、咽、喉、舌等部位，并与心、肝、脾、肺、肾五脏均有密切的关系，为本虚标实之证[18]。其中肝肾不足，气血亏虚为本，风火相煽，痰瘀阻络为标，气血亏虚均可致咽喉气机失约，秽浊之物呛入肺系使肺失喧肃，表现出吞咽困难、饮水呛咳症状[19]。因此，对于该病的治疗关键在于疏通闭阻之脉络以促进气血运行。本研究根据中医“腧穴所在，主治所在”的原理，选择病变部位相应的腧穴进行针刺以疏通瘀阻的经络。《针灸资生经》谓廉泉穴位吞咽困难之要穴，认为针刺该穴可用于治疗舌下肿、言语不利、吞咽困难等证；风池穴为足少阳胆经与阳维脉的交会穴，胆经与肝经相表里，肝经循行于喉咙之后，《千金方》中记载针刺风池具有调肝熄风，豁痰利咽的作用；完骨穴与风池同属足少阳胆经，针刺该穴可加强风池调肝熄风的作用；翳风为手足少阳经之会穴，在《内经·缪刺论篇第六十三》中有“邪客于少阳之络令人喉博舌卷口干心烦”的记载，因而针刺该翳风可通过调整少阳之经气而通关利窍，改善喉搏舌卷之证；外金津、外玉液位于廉泉穴直上 1.5 寸，两旁各开 0.3 寸处，针刺外金津、外玉液有开窍起闭、清热泻火、生津止渴的作用，可改善卒中后吞咽困难患者口干舌燥的症状，诸穴合用具有舒筋活络、调畅气机、清利咽喉的作用，改善患者的吞咽困难症状[20-21]。

关于针刺配合常规西医治疗卒中后吞咽障碍虽有相关报道[22-27]，但多以临床观察为主，不利于中医治疗的现代化及国际推广，因此，本研究选择吞咽造影及表面肌电图这两个客观指标进行评估。吞咽造影为吞咽障碍评价的金标准，通过让患者进食不同性状的造影剂，以 X 射线检查设备获取患者吞咽过程的图像，分析患者进食过程中口腔、咽喉、食管等各器官的运动情况，评价吞咽障碍的性质及发生部位[28]。表面肌电图检查则主要基于吞咽过程是一种复杂神经反射的认识，目前的研究证实吞咽过程涉及口、咽喉部食管部位肌肉及骨骼，均受脑干及大脑皮质中枢调节，通过检测双侧舌骨上、下肌群的最大波幅及吞咽时程可反映患者的吞咽功能[29]。本研究吞咽造影及表面肌电检查结果均优于对照组，提示针刺治疗卒中后吞咽困难的机制可能与改善患者双侧舌骨上、下肌群表面肌电有关。本研究所选择的穴位大部分位于咽喉部、舌骨位附近，通过针刺上述部位可刺激咽喉、舌骨上肌群、舌肌等局部的肌肉而促进上述肌群的收缩，使食物团向口咽部推送而促进会厌软骨的折返，改善患者的吞咽功能，但对于其分子机制尚有待进一步证实[30-39]。在卒中单元康复治疗基础上加以针刺治疗可起到协同效应而改善患者的吞咽困难，提高患者进食效率，减少因呛咳而引起的肺部感染，提高患者生活质量。

针刺联合卒中单元康复治疗卒中后吞咽障碍疗效显著，并改善吞咽造影、表面肌电检查结果，提高患者生活质量，降低误吸性肺炎发生率，具有较高的安全性。

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