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穴位针灸联合泼尼松治疗无听力变化耳鸣疗效及对血清 5-HT、GABA 影响 *

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摘要 目的:探讨穴位针灸联合泼尼松治疗无听力变化耳鸣的疗效及对血清 5-羟色胺 (5-hydroxytryptamine, 5-HT)、 γ -氨基丁酸 (Gamma-Amino-Butyric Acid, GABA) 影响。**方法:**选取我院 2016 年 1 月~2020 年 1 月所收治的 160 例无听力变化的耳鸣患者, 将其随机分为研究组和对照组, 每组患者 80 例, 对照组患者采取泼尼松治疗, 研究组患者采取穴位针灸联合泼尼松治疗, 对比不同治疗方式治疗无听力变化的耳鸣疗效、听力障碍分级以及对血清 5-HT、GABA 影响。**结果:**两组治疗前气导平均听阈水平、耳鸣程度对比无统计学差异 ($P>0.05$), 治疗后, 研究组气导平均听阈水平、耳鸣程度降低程度较对照组明显 ($P<0.05$); 研究组的治疗有效率 85.00 % 明显高于对照组 53.75 % ($P<0.05$); 研究组的听力恢复正常的人数明显高于对照组 ($P<0.05$); 中度听力障碍人数对比无显著差异 ($P>0.05$); 研究组的轻度听力障碍人数明显低于对照组 ($P<0.05$); 两组治疗前各神经递质含量 (5-HT、GABA) 对比无统计学差异 ($P>0.05$), 研究组治疗后 5-HT、GABA 改善程度较对照组更加明显 ($P<0.05$)。**结论:**穴位针灸联合泼尼松治疗无听力变化耳鸣的疗效显著, 可改善患者的听力、耳鸣, 调节中枢性神经递质含量, 疗效明显优于单独西医治疗。

关键词:穴位针灸; 泼尼松; 无听力变化耳鸣; 疗效; 血清 5-HT; GABA

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Therapeutic Effect of Acupoint Acupuncture Combined with Prednisone on Tinnitus without Hearing Change and Its Effect on Serum 5-HT and GABA *

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ABSTRACT Objective: To explore the therapeutic effect of acupoint acupuncture combined with prednisone on tinnitus without hearing change and its effect on serum 5-HT and GABA. **Methods:** A total of 160 patients with tinnitus without hearing change, who were admitted to the Fifth Affiliated Hospital of Xinjiang Medical University from January 2016 to January 2020, were selected and randomly divided into study group (n=80) and control group (n=80). The patients in the control group were treated with polnisone. The patients in the study group were treated with acupuncture and polnisone. The effects of different treatment methods on tinnitus without hearing changes, hearing impairment grades, and their effects on serum 5-HT and GABA were compared between the two groups. **Results:** Before treatment, there was no significant difference between the two groups ($P>0.05$). After treatment, the level of the average threshold and tinnitus in the study group was significantly lower than that in the control group ($P<0.05$). The effective rate (85.00 %) of the study group was higher than that (53.75 %) in the control group ($P<0.05$). The number of people recovering normal hearing in the study group was significantly higher than that in the control group ($P<0.05$); there was no significant difference in the number of people with moderate hearing impairment ($P>0.05$); the number of people with mild hearing impairment in the study group was significantly lower than that in the control group ($P<0.05$). There was no significant difference in the content of neurotransmitters (5-HT, GABA) between the two groups before treatment ($P>0.05$). The improvement of 5-HT and GABA in the study group was more significant than that in the control group ($P<0.05$). **Conclusion:** Acupoint acupuncture combined with prednisone is effective in the treatment of tinnitus without hearing change. It can improve the patients' hearing and tinnitus, regulate the content of central neurotransmitter, and its effect is better than western medicine alone.

Key words: Acupoint acupuncture; Prednisone; Tinnitus without hearing change; Curative effect; Serum 5-HT; GABA

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前言

无听力变化耳鸣是一种主观性耳鸣,是指患者在无电磁、明显噪音等刺激下主观感受到的耳鸣症状,其发病和营养不良、药物毒性、糖尿病、血管性疾病等有关,长期耳鸣会严重影响患者的生活质量^[1]。对此,临床需高度重视耳鸣患者的治疗。因现代医学对无听力变化耳鸣发病机制尚不明确,且致病因素复杂,虽然有多种治疗方法,但是疗效欠佳,在治疗中具有较大不确定性和难度^[2]。西药物理治疗(声治疗、高压氧等)及西药治疗因费用高、不良反应大等,影响患者的治疗依从性^[3]。针灸作为我国传统医学,在该病的治疗上发挥着独特作用,并且治疗成本低、治疗安全有效。近几年,穴位针灸的临床价值中医学学术

界达成共识,成为一种常见治疗方式^[4]。为进一步丰富无听力变化耳鸣的针灸处方,明确针灸治疗本病的临床意义,本研究对我院所收治的无听力变化的耳鸣患者采取针药并用方式,采取穴位针灸联合泼尼松治疗,充分发挥二者优势,并观察其治疗无听力变化耳鸣的疗效及对血清 5-HT、GABA 影响。旨在为无听力变化患者筛选一种更经济、更有效的治疗方法。

1 资料与方法

1.1 一般资料

选取我院 2016 年 1 月~2020 年 1 月所收治的 160 例无听力变化的耳鸣患者,将其随机分为研究组和对照组,每组 80 例,两组一般资料如表 1 对比无差异($P>0.05$),可对比。

表 1 两组一般资料对比

Table 1 Comparison of general data between two groups

Groups	n	Gender(Male /Female)	Average age (years)	Average course of illness (months)
Research group	80	47/33	44.23± 10.23	6.35± 0.53
Control group	80	49/31	44.19± 10.19	6.36± 0.52

1.2 入选标准

纳入标准^[5,6]:符合无听力变化耳鸣患者的中医及西医诊断标准;年龄 20~65 岁;病程 3~9 个月;治疗干预停止时间超过 30 d;排除颅脑病变、内耳结构异常及其他疾病所导致的耳鸣。

排除标准:合并凝血机制障碍者;合并严重心脑血管疾病者;合并器质性病变者;合并精神意识障碍、情绪异常,无法配合治疗者。

1.3 治疗方法

对照组给予泼尼松治疗,生产企业:浙江仙琚制药股份有限公司,批准文号:国药准字 H33021207,规格:5 mg/片,用法用量:口服,一次 5~10 mg(1~2 片),一日 10~60 mg(2~12 片)。

研究组采取穴位针灸联合泼尼松治疗,泼尼松治疗对照组,穴位针灸:选择环球牌一次性无菌针灸针(规格:0.25 mm×40 mm),穴位选择患侧中渚、耳门、足三里、听宫、太溪、足临泣、听会、外关、翳风,对于风热上扰证,则增加曲池;对于肾精亏损证,则增加悬钟;对于肝胆火盛证,则增加侠溪;对于痰火郁结证,则增加丰隆。对于听会、刺耳门、翳风、听宫穴位,针灸时采取针灸针垂直进针 25~35 mm,轻度捻转,得气为度;对于听宫、听会穴位,采取电针治疗仪(型号:G6805),选择频率 10 Hz、连续波,电流强度以患者舒适度为宜;其他穴位采取双侧针灸,轻刺激,得气为度,留针 30 min,每天 1 次,1 个疗程 10 天,每个疗程之间休息 3 天,连续治疗 2 个疗程后,对比两组患者的疗效。

1.4 观察指标

气导平均听阈水平:以 0.5 kHz、1.0 kHz、2.0 kHz 及 4.0 kHz 的气导平均值作为评价的标准,比较治疗前、后纯音听阈测试的听力水平。

耳鸣程度:对比两组患者治疗前后气导平均听阈水平和耳鸣程度,其中耳鸣程度评分共分为 5 级,级别越高,分值越高,耳鸣程度越严重。

听力障碍分级:按照严重程度分为四个等级,评分分 2 分、4 分、6 分,0 分患者没有症状,2 分患者症状较为轻微或者

偶尔发生,4 分患者症状较为严重或间断出现,6 分患者症状非常显著或者持续出现。

神经递质含量:分别于治疗前后抽取患者晨起空腹静脉血 5 mL,检测 5-HT、GABA 含量。

1.5 评价标准

评估两组的治疗效果,耳鸣症状消失,听力恢复,即治愈;耳鸣症状明显改善,耳鸣程度下降≥2 级,即显效;耳鸣症状改善,耳鸣程度下降 1 级,即有效;未达到上述标准,即无效^[7]。治愈率、显效率及有效率之和即为总有效率。

1.6 统计学方法

应用 SPSS23.0,采取($\bar{x} \pm s$)表示气导平均听阈水平、耳鸣程度、5-HT、GABA 等计量资料,采取例、百分数表示治疗效果等计数资料,分别采取 t、 χ^2 检验, $P<0.05$ 有统计学意义。

2 结果

2.1 两组气导平均听阈水平和耳鸣程度对比

两组治疗前气导平均听阈水平、耳鸣程度对比无差异($P>0.05$),治疗后,两组上述指标明显降低,研究组降低程度较对照组明显($P<0.05$),如表 2 所示。

2.2 两组治疗效果对比

研究组的治疗有效率 85.00%,明显高于对照组 53.75% ($P<0.05$),如表 3 所示。

2.3 两组听力障碍分级比较

研究组的听力恢复正常人数明显高于对照组 ($P<0.05$);中度听力障碍人数对比无显著差异($P>0.05$);研究组的轻度听力障碍人数明显低于对照组($P<0.05$),如表 4 所示。

2.4 两组神经递质含量对比

两组治疗前各神经递质含量(5-HT、GABA)对比无差异($P>0.05$),治疗后,两组 5-HT 明显降低,GABA 明显升高,研究组变化优于对照组($P<0.05$),如表 5 所示。

3 讨论

无听力变化耳鸣属于中医学耳鸣疾病范畴,多和肝肾功能

表 2 两气导平均听阈水平和耳鸣程度对比($\bar{x} \pm s$)Table 2 Comparison of average hearing threshold level and tinnitus degree of air conduction between two groups ($\bar{x} \pm s$)

Groups	n	Average air conduction threshold(dB)		Tinnitus degree(分)	
		Pre-treatment	After treatment	Pre-treatment	After treatment
Research group	80	41.05 $\pm$ 7.29	21.98 $\pm$ 3.35**	15.19 $\pm$ 1.38	5.59 $\pm$ 0.87**
Control group	80	41.20 $\pm$ 5.30	32.97 $\pm$ 3.13 [#]	15.20 $\pm$ 1.40	9.50 $\pm$ 0.91 [#]

Note: compared with the control group, * $P < 0.05$, compared with the before treatment, [#] $P < 0.05$.

表 3 两组治疗效果对比(例,%)

Table 3 Comparison of treatment effects between two groups (n, %)

Groups	n	Cure	Markedly effective	Effective	Invalid	Total effective rate
Research group	80	16(20.0)	27(33.75)	25(31.25)	12(15)	68(85.00)*
Control group	80	2(25)	21(26.25)	20(25.0)	37(46.25)	43(53.75)

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

表 4 两组听力障碍分级比较(例,%)

Table 4 Comparison of hearing impairment classification between two groups (n, %)

Groups	n	Mild	Moderate	Normal
Research group	80	8(10.0)*	10(12.5)	62(77.5)*
Control group	80	19(23.75)	14(17.5)	47(58.75)

表 5 两组神经递质含量对比($\bar{x} \pm s, \mu\text{g/mL}$)Table 5 Comparison of neurotransmitter content between two groups ($\bar{x} \pm s, \mu\text{g/mL}$)

Groups	n	5-HT		GABA	
		Pre-treatment	After treatment	Pre-treatment	After treatment
Research group	80	0.0413 $\pm$ 0.0357	0.0209 $\pm$ 0.0140**	0.0287 $\pm$ 0.0113	0.0387 $\pm$ 0.0169**
Control group	80	0.0409 $\pm$ 0.0349	0.0336 $\pm$ 0.0206 [#]	0.0290 $\pm$ 0.0120	0.0321 $\pm$ 0.0153 [#]

亢盛、不足,感受外邪有关,致使耳脉闭不通,而脾胃不足、肾精耗损致使耳窍失于濡养,进而诱发疾病。现代医学研究表明^[8],耳鸣的发生和神经传导通路障碍、听觉中枢系统病变相关^[9-12]。西医治疗该病多是对症处理,具有较大的临床疗效差异。耳鸣时间越长,对患者的影响越大,产生明显负面情绪,给患者工作及家庭造成不利后果^[13-17]。中医学尝试不同治疗手段治疗无听力变化耳鸣,促使该病恢复^[11]。通过临床研究发现,以针灸为代表的中医外治法对于无听力变化耳鸣患者具有明显效果,并且治疗安全、治疗费用相对低廉,更受患者青睐^[18-20],本研究同时采取辩证取穴的方式,充分体现了中医诊疗的个体化特色,发展前景广阔,得到临床学者的高度认可。

本研究结果显示,研究组治疗后,气导平均听阈水平、耳鸣程度降低程度较对照组明显,由此提示,穴位针灸联合泼尼松治疗无听力变化耳鸣可减少患者耳鸣症状,改善听力,并且,研究组的治疗有效率明显高于对照组,说明穴位针灸联合泼尼松治疗效果显著,是一种绿色安全疗法,本研究结果和 Yuan Y^[21]等学者的研究结果一致,对照组采取常规西医治疗,治疗组患者在此基础上采取蜂针联合温针灸治疗,结果显示,相比于对照组,治疗组气导平均听阈水平及耳鸣程度评分改善更明显,且治疗组患者总有效率达 83.33%,明显高于对照组 66.67%。分析其机制,主要是因西医治疗该病主要是营养神经、改善微循环,针灸治疗可以从整体角度,促进淋巴液循环,改善血液供应,改善耳内循环,诱导听觉,调节大脑生物电活动,有效调节

机体功能,并且对人体精神状态的调节也起到一定帮助,进一步提高无听力变化耳鸣患者的疗效。本研究结果表明,研究组的听力恢复正常人数明显高于对照组,说明联合治疗方式优于单一治疗,与刘传立^[22]等学者的研究类似,该学者研究调肝升阳益气针法联合穴位按摩促进神经性耳鸣患者康复效果,对照组患者给予甲钴胺、盐酸氟桂利嗪等常规西医治疗,观察组患者于对照组治疗基础上给予调肝升阳益气针法及穴位按摩治疗,治疗后两组患者耳鸣耳聋、耳鸣分级量化评分均改善,且观察组优于对照组。说明穴位针灸联合西药治疗,可较好促进神经性耳鸣患者听力的康复。

目前,无听力变化耳鸣其发病机制尚不明确,国内外研究重点转向中枢神经系统,认为耳鸣发病早期可能是耳蜗病变,但是主要病理过程及后期结果发生在中枢,中枢神经递质是神经信号传导、修饰、细胞代谢等活动基础,这离不开受体作用功能^[23-25]。据国内外研究表明^[26,27],和无听力变化耳鸣发生最密切的中枢性神经递质包括 5-HT、GABA,耳鸣病理过程和神经递质异常释放、受体重新分布有直接关系。学者 Ouyang Shaoji^[28]通过检测耳鸣大鼠耳蜗核 5-HT、GABA 受体表达,表明其功能失调和耳鸣的发病及病情发展具有相关性。GABA 作为中枢抑制性神经递质,其受体的减少可能是导致耳鸣的主要机制。通过本研究结果显示,研究组 5-HT 明显低于对照组,GABA 明显高于对照组,丁雷^[29]等学者通过检测耳鸣患者针刺治疗前后外周血清中枢性神经递质含量变化,探索针刺治疗耳鸣的可能

作用机制,结果显示针刺后患者 GABA 含量增加,5-HT 含量减少,说明针刺可以调节耳鸣中枢性神经递质 5-HT 与 GABA 含量,可能是其治疗耳鸣的作用机制,与本研究的结果类似。由此提示,穴位针灸联合泼尼松治疗无听力变化耳鸣可调节中枢性神经递质含量,分析原因主要是穴位针灸可引起机体组织产生电活动,甚至会大量放电,向中枢传递电活动信号,调节神经递质释放,抑制性神经递质含量的增加,改变血清 5-HT、GABA 递质水平及受体兴奋状态,使耳鸣患者听觉系统的灵敏度恢复,耳鸣的感知较前减少,继而耳鸣症状得到改善,但是因耳鸣病机复杂,针灸治疗受患者年龄、病情严重程度、病程、施灸人员专业度等有关,对此需制定个体化综合疗法,以改善患者的临床症状^[30,31]。由此提示,穴位针灸联合泼尼松治疗可提升无听力变化耳鸣患者的治疗效果,可能是其治疗耳鸣作用机制有关。

总而言之,穴位针灸联合泼尼松治疗无听力变化耳鸣疗效显著,可改善患者的听力、耳鸣,调节中枢性神经递质含量,促进患者耳部神经系统恢复,值得临床上推广应用。

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