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· 论 著 ·

振动排痰辅助常规雾化治疗儿童喘息性支气管炎疗效观察

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[摘要] 目的:探讨振动排痰在儿童喘息性支气管炎治疗中的应用价值。方法:选择2017年6月至2018年1月我科收治的喘息性支气管炎的患儿60例,按随机数表法分为对照组和观察组各30例,均给予常规对症治疗,减少气道分泌物,缓解咳嗽,并酌情给予吸氧及抗感染治疗。对照组患儿给予常规雾化方案(吸入用异丙托溴铵溶液+吸入用布地奈德混悬液)治疗,观察组患儿在对照组雾化方案的基础上运用振动排痰辅助治疗,观察并比较两组患儿的临床疗效、临床症状消失时间及治疗前后的肺功能指标。结果:观察组患儿总有效率为96.67%,高于对照组的76.67% ($P < 0.05$);咳嗽缓解、喘息缓解、肺部啰音消失时间及住院时间均短于对照组 (P 均 < 0.05);治疗后FEV1、FVC、FEV1/FVC、PEF均高于对照组 (P 均 < 0.05)。结论:振动排痰辅助常规雾化治疗儿童喘息性支气管炎疗效确切,安全可靠,是一种增效的治疗方式,值得临床推广应用。

[关键词] 雾化吸入;振动排痰;喘息性支气管炎

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Vibration Expectoration Combined with Aerosol Inhalation in the Treatment of Asthmatic Bronchitis

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[Abstract] Objective: To investigate the application value of vibration expectoration in the treatment of asthmatic bronchitis in children.

Methods: A total of 60 children with asthmatic bronchitis admitted into our department from Jun. 2017 to Jan. 2018 were extracted to be divided into observation group and control group via the random number table, with 30 cases in each group. All patients were given conventional symptomatic treatment, such as reducing airway secretions, relieving cough, and giving oxygen and anti-infective treatment as appropriate. Children in the control group were treated with conventional aerosol inhalation scheme (ipratropium bromide solution for inhalation + budesonide suspension for inhalation), and the observation group received vibration expectoration on the basis of the control group. The clinical efficacy, disappearance time of clinical symptoms and lung function indexes before and after treatment were observed and compared between two groups. **Results:** The total effective rate was 96.67% in the observation group, higher than 76.67% in the control group ($P < 0.05$). The cough relief time, wheezing relief time, disappearance time of lung rales and length of stay in the observation group were shorter than those in the control group ($P < 0.05$). And FEV1, FVC, FEV1/FVC and PEF in the observation group were higher than those in the control group ($P < 0.05$). **Conclusion:** Vibration expectoration combined with aerosol inhalation in the treatment of asthmatic bronchitis in children is efficacy, safety and reliability. It is a synergistic treatment and worthy of clinical application.

[Keywords] aerosol inhalation; vibration expectoration; asthmatic bronchitis

喘息性支气管炎是一种小儿常见病,以秋冬季多发的急性呼吸道感染性疾病^[1],其病原包括鼻病毒、副流感病毒和流感病毒、腺病毒、呼吸道合胞病毒、肺炎支原体,大多数病例合并细菌感染^[2-3]。婴幼儿气管和支气管相对狭窄,周围弹力纤维发育不完善,黏膜易受感染或其他刺激而肿胀充血引起管道狭窄,分泌物黏稠不易咳出,从而产生喘鸣音^[4]。部分患儿喘息症状严重时可引起肺功能下降甚至呼吸衰竭、心力衰竭等^[5]。由此可见,湿化气道和促进排痰对喘息性支气管炎治疗有重要作用。

1 资料和方法

1.1 一般资料

选取 2017 年 6 月至 2018 年 1 月我院收治的喘息性支气管炎患儿 60 例。纳入标准:均符合《诸福棠实用儿科学》第 7 版中喘息性支气管炎诊断标准,临床表现为喘息、阵发性咳嗽、肺部听诊呼吸时间延长、可闻及哮鸣音和中细湿啰音^[6]。排除标准:哮喘、先天性喉喘鸣、先天性心脏病、支气管异物、肺结核、免疫功能缺陷、肝或肾功能不全及合并其他重要脏器功能障碍^[7]。采用随机数表法分为对照组和观察组各 30 例,对照组男 16 例,女 14 例,年龄 2.5 ~ 5.0 (3.9 ± 0.3) 岁,病程 (2.9 ± 0.3) d;观察组男 17 例,女 13 例,年龄 2.5 ~ 5.0 (3.6 ± 0.5) 岁,病程 (2.8 ± 0.4) d。两组患儿年龄、性别、病程比较差异无统计学意义 (P 均 > 0.05),具有可比性。本研究经患儿家属知情同意和医院伦理委员会批准。

1.2 方法

两组患儿均给予常规对症治疗,减少气道分泌物,缓解咳嗽,并酌情给予吸氧及抗感染治疗。对照组患儿给予吸入用异丙托溴铵溶液(爱全乐, Laboratoire Unither, H20150159, 500 μg : 2 mL) 250 μg + 吸入用布地奈德混悬液(普米克令舒,阿斯利康, H20140475, 1 mg : 2 mL) 1 mg 雾化吸入,每日 2 次,每次 10 ~ 15 min。观察组患儿在对照组雾化治疗的基础上运用振动式物理辅助治疗仪实施辅助排痰治疗,设定振动频率 10 ~ 15 Hz,要求

患儿保持坐位或俯卧位,操作人员将叩击头放在患儿背后肺部的下叶处,将叩击头缓慢提起,并向上移动,实施叩击,叩击顺序从右侧到左侧(自下而上、从外到内),然后再转至背部、脊柱以及胸骨部位,每次振动 10 ~ 15 min。两组患儿疗程均为 5 d。

1.3 疗效判定标准^[8]

显效:肺部啰音消失,咳嗽明显减轻或消失,排痰量减少 > 70%;有效:肺部啰音及咳嗽减少,排痰量减少 30% ~ 70%;无效:肺部啰音及咳嗽无改善,排痰量减少 < 30%。总有效率 = (显效例数 + 有效例数) / 总例数 × 100%。

1.4 肺功能测定

分别于治疗前后采用 SN655 11 型肺功能检测仪对患儿进行检查,检测指标包括第 1 秒用力呼气量 (FEV1)、用力肺活量 (FVC)、第 1 秒用力呼气量与用力肺活量比值 (FEV1/FVC) 和呼气峰流速 (PEF)。

1.5 统计学方法

应用 SPSS 18.0 软件,计量资料以 $\bar{x} \pm s$ 表示,采用 t 检验,计数资料以百分率表示,采用 χ^2 检验, $P < 0.05$ 为差异有统计学意义。

2 结果

2.1 两组患儿临床疗效比较

观察组患儿总有效率为 96.67%,高于对照组的 76.67% ($\chi^2 = 3.60, P < 0.05$),见表 1。

表 1 两组患儿的临床疗效比较

组别	例数	显效/例	有效/例	无效/例	总有效率/%
对照组	30	13	10	7	76.67
观察组	30	23	6	1	96.67

2.2 两组患儿治疗前后肺功能指标比较

两组患儿治疗前 FEV1、FVC、FEV1/FVC、PEF 比较差异均无统计学意义 (P 均 > 0.05);观察组患儿治疗后 FEV1、FVC、FEV1/FVC、PEF 均高于对照组 (P 均 < 0.05)。见表 2。

表 2 两组患儿治疗前后肺功能指标比较

组别	例数	FEV1/L		FVC/L		FEV1/FVC		PEF/(L/min)	
		治疗前	治疗后	治疗前	治疗后	治疗前	治疗后	治疗前	治疗后
对照组	30	1.25±0.08	1.66±0.31	2.12±0.32	2.52±0.36	0.59±0.07	0.66±0.09	2.22±0.16	3.34±0.11
观察组	30	1.23±0.08	1.99±0.45	2.15±0.36	2.86±0.37	0.58±0.09	0.71±0.05	2.24±0.11	4.19±0.30
<i>t</i>		-1.00	3.30	0.33	3.60	-0.50	2.66	0.50	14.57
<i>P</i>		>0.05	<0.05	>0.05	<0.05	>0.05	<0.05	>0.05	<0.05

2.3 两组患儿症状体征消退时间及住院时间比较

观察组患儿咳嗽缓解、喘息缓解、肺部啰音消失时间及住院时间均短于对照组(P 均<0.05),见表3。

表 3 两组患儿症状体征消退时间及住院时间比较

组别	例数	咳嗽缓解时间	喘息缓解时间	肺部啰音消失时间	住院时间
对照组	30	5.25±1.81	5.56±1.65	5.45±1.04	6.08±0.28
观察组	30	3.45±1.02	3.67±1.15	3.78±1.18	3.88±0.31
<i>t</i>		4.75	5.15	5.82	28.85
<i>P</i>		<0.05	<0.05	<0.05	<0.05

2.4 两组患儿不良反应发生情况比较

治疗过程中,观察组和对照组各有1例患儿因雾化吸入药物而出现恶心、咽部不适等轻度症状。雾化吸入后适当休息,漱口,患儿症状缓解。观察组无振动排痰不良反应。

3 讨论

喘息性支气管炎是一类以喘息为主要临床特征的婴幼儿急性支气管感染性疾病,主要由病毒、支原体、衣原体感染引起,可并发细菌感染,多数患儿有过敏体质或家族过敏史^[9]。其发病机制为病原体破坏呼吸道上皮,暴露并破坏气道上皮神经末梢,引起胆碱能神经超敏反应,导致气道平滑肌收缩、腺体分泌和气道高反应性。有研究表明,30%~50%的喘息性支气管炎患儿可以进展成为支气管哮喘^[10]。一些病毒可抑制 β_2 受体功能,导致气道平滑肌收缩、松弛状态丧失,并导致周围小气道收缩和喘息^[11]。患儿反复发作的喘息症状可造成肺功能的损伤。目前治疗喘息性支气管炎的方法大多是在控制感染基础上加用糖皮质激素治疗。

异丙托溴铵可以抑制迷走神经诱发的支气管收缩反射,通过减少肥大细胞中环磷酸鸟苷(肥大细胞稳定作用)抑制介导支气管痉挛的介质的释放^[12]。吸入异丙托溴铵通过局部药物对支气管平滑肌的抗胆碱能作用引起支气管扩张,减轻喘息症状,而非全身性作用。布地奈德是一种新合成的非卤代肾上腺皮质激素,对糖皮质激素受体的结合力强,抗炎作用强,其作用是丙酸倍氯米松的2倍。布地奈德能收缩微血管,减少炎症渗出,减轻水肿和毛细血管扩张,抑制炎症细胞向炎症部位的运动,还可以阻止过敏性神经递质的释放,降低各种过敏性神经递质的活性,增强气道 β_2 肾上腺素能受体的反应性,有效消除气道炎症,显著减少支气管痉挛收缩的症状;抑制过敏原,降低支气管高反应性^[13]。雾

化吸入具有起效快、疗效好、不良反应少、简单易行、患者依从性好等特点,已广泛应用于临床。

振动排痰机依照物理定向叩击原理,从垂直和水平两个方向产生特定方向周期变化的治疗力,可穿透皮层、肌肉、组织和体液传导到小支气管,帮助支气管黏膜表面的黏液及代谢性物松弛和液化,同时促进支气管内液化的黏液排除体外^[14],从而清除喘息性支气管炎患儿下呼吸道分泌物,并在一定程度上消除致病因素,减轻炎症反应,保持气道通畅,改善通气和换气功能,形成良性循环,促进呼吸功能恢复^[15]。周舟等^[16]研究也显示,应用振动排痰等方法可促使肺内痰液排出体外,保持呼吸道通畅,促进肺功能恢复,减轻肺部炎症。

本研究在雾化吸入异丙托溴铵解除支气管痉挛、布地奈德抗炎作用的基础上,运用振动排痰辅助治疗,能够更好地清除气道的痰液和炎症因子,并能显著改善患儿的肺功能,加快缓解喘息症状,提高了治疗效果,是一种增效的治疗方式,具有安全可靠、依从性好的特点,值得临床推广应用。

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• 论著 •

复方嗜酸乳杆菌片联合启脾口服液治疗学龄期儿童功能性腹痛疗效观察

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[摘要] 目的:探讨学龄期儿童功能性腹痛的有效治疗方法。方法:选择2016年3月至2017年3月我院儿科门诊确诊为功能性腹痛的患儿150例,按就诊顺序随机分为对照组、观察组1和观察组2各50例。对照组给予口服山莨菪碱(654-2)片,每次0.1~0.2 mg/kg,每天3次;观察组1在对照组基础上给予口服复方嗜酸乳杆菌片,每次1片,每天3次;观察组2在观察组1基础上给予启脾口服液,每次5~10 mL,每天3次。三组均以2周为1个疗程,连续治疗2个疗程。治疗结束时评价疗效及视觉模拟评分。结果:对照组、观察组1和观察组2的总有效率分别为66.0%、86.0%、94.0% ($P<0.01$);治疗结束时的视觉模拟评分分别为(3.88±1.10)分、(3.28±1.43)分、(2.40±1.16)分 ($P<0.01$)。结论:复方嗜酸乳杆菌片联合启脾口服液治疗学龄期儿童功能性腹痛疗效确切,能显著缓解腹痛,值得临床推广应用。

[关键词] 功能性腹痛;学龄期;复方嗜酸乳杆菌片;启脾口服液

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Compound Eosinophil-Lactobacillus Tablets Combined with Qipi Oral Liquid in the Treatment of Functional Abdominal Pain in School-Age Children

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[Abstract] **Objective:** To explore the therapeutic efficacy of compound eosinophil-lactobacillus tablets combined with Qipi oral liquid in the treatment of functional abdominal pain in school-age children. **Methods:** One hundred and fifty children with functional abdominal pain admitted into outpatient department of pediatrics in our hospital from Mar. 2016 to Mar. 2017 were selected to be divided into the control group, the observation group 1 and the observation group 2 via the admission sequence. The control group was given anisodamine (654-2) tablets, 0.1~0.2 mg/kg each time, 3 times a day orally; the observation group 1 was treated with compound lactobacillus acidophilus tablets on the basis of the control group, 1 tablet each time, 3 times a day orally; the observation group 2 received Qipi oral liquid on the basis of the observation group 1, 5~10 mL each time, 3 times a day orally. All 3 groups were treated for 2 weeks and 2 courses were continuously treated. Efficacy and visual analog scores were evaluated at the end of treatment. **Results:** The total effective rates of the control group, observation group 1 and observation group 2 were 66.0%, 86.0%, and 94.0%, respectively ($P<0.01$). At the end of treatment, the visual analog scores were (3.88±1.10), (3.28±1.43), and (2.40±1.16), respectively ($P<0.01$). **Conclusion:** The efficacy of compound eosinophil-lactobacillus tablets combined with Qipi oral liquid in the treatment of functional abdominal pain in school-age children is accurate, which can significantly relieve the abdominal pain and is worthy of popularization and application.

[Keywords] functional abdominal pain; school-age; compound eosinophil-lactobacillus tablets; Qipi oral liquid

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