·论著·

槐杞黄颗粒防治儿童支气管哮喘的效果及其对免疫功能的影响

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【摘要】 **目的** 探讨槐杞黄颗粒防治儿童支气管哮喘的效果及其对免疫功能的影响。**方法** 纳入郑州市儿童医院2013年1月至2015年1月收治的64例支气管哮喘患儿,完全随机分为观察组和对照组,各32例。对照组口服传统治疗支气管哮喘的药物氨茶碱(1~<3岁,0.1 g/次,2次/d;≥3岁,0.2 g/次,2次/d),观察组早晚口服槐杞黄颗粒(1~<3岁,0.5包/次,2次/d;≥3岁,1包/次,2次/d),疗程2个月。比较2组治疗有效率、哮喘控制程度及治疗前后免疫功能指标差异。**结果** 观察组治疗有效率高于对照组[96.9%(31/32)比78.1%(25/32)],差异有统计学意义($P<0.05$)。观察组患儿治疗后日间症状发作程度明显轻于对照组[(0.46±0.13)分比(0.98±0.20)分],差异有统计学意义($P<0.05$)。与治疗前比较,观察组患儿治疗后免疫球蛋白(Ig)A和IgM水平明显降低,IgG水平明显升高[(1.15±0.14)mg/L比(1.23±0.12)mg/L、(1.28±0.20)mg/L比(1.32±0.42)mg/L、(9.24±0.16)mg/L比(7.04±1.14)mg/L],差异均有统计学意义(均$P<0.05$),总T淋巴细胞、抑制性T淋巴细胞、辅助性T淋巴细胞、自然杀伤细胞水平明显升高,而总B淋巴细胞水平明显降低[(68.6±2.3)%比(61.2±5.3)%、(25.8±0.4)%比(20.0±5.6)%、(35.4±2.5)%比(31.6±3.3)%、(15.3±1.7)%比(10.2±4.1)%、(13.6±1.4)%比(16.9±3.6)%],差异均有统计学意义(均$P<0.05$)。**结论** 槐杞黄颗粒可有效防治儿童支气管哮喘,并改善免疫功能。

【关键词】 槐杞黄颗粒; 支气管哮喘,儿童; 免疫功能
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Effect of Huaiqihuang granules in preventing and treating bronchial asthma and influence on immunological function in children

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【**Abstract**】 **Objective** To investigate the effect of Huaiqihuang granules in preventing and treating bronchial asthma and its influence on immunological function in children. **Methods** Totally 64 cases with bronchial asthma from January 2013 to January 2015 were randomly divided into control group ($n=32$) given conventional drug aminophylline (1-<3 years old, 0.1 g/time, 2 times/d; >3 years old, 0.2 g/time, 2 times/d) and observation group ($n=32$) given Huaiqihuang granules (1-<3 years old, 0.5 package/time, 2 times/d; >3 years old, 1 package/time, 2 times/d). The treatment lasted for 2 months. The clinical efficacy and control degree of asthma were compared between groups; the immunological indexes were measured before and after treatment in observation group. **Results** The effective rate in observation group was significantly higher than that in control group [96.9% (31/32) vs 78.1% (25/32)] ($P<0.05$). The symptom degree of asthma in daytime in observation group was significantly lower than that in control group [(0.46±0.13) scores vs (0.98±0.20) scores] ($P<0.05$). In observation group, the levels of IgA and IgM were significantly reduced, the level of IgG was significantly increased after treatment compared with those before treatment [(1.15±0.14) mg/L vs (1.23±0.12) mg/L, (1.28±0.20) mg/L vs (1.32±0.42) mg/L, (9.24±0.16) mg/L vs (7.04±1.14) mg/L] ($P<0.05$), the levels of total T cells, suppressor T cells, helper T cells, nature killer cells were significantly increased, the level of total B cells was significantly reduced after treatment compared with those before treatment [(68.6±2.3)% vs (61.2±5.3)%, (25.8±0.4)% vs (20.0±5.6)%, (35.4±2.5)% vs (31.6±3.3)%, (15.3±1.7)% vs (10.2±4.1)%, (13.6±1.4)% vs (16.9±3.6)%] ($P<0.05$). **Conclusion** Huaiqihuang granules can effectively prevent and treat bronchial asthma, and improve the immunological function in children.

【**Key words**】 Huaiqihuang granules; Bronchial asthma, children; Immunological function

支气管哮喘属于慢性炎症,可能与气道高反应性相关,支气管哮喘是由多种细胞、细胞组分参与的疾病[1]。哮喘的确切原因还不十分清楚,报道显示,儿童时期哮喘多为多种病毒导致的呼吸道感

染，80% 小儿哮喘发作与病毒感染有关，尤其是婴幼儿患者，有 90% 以上是由于呼吸道感染而发病的[2]。支气管哮喘与遗传因素、变应原以及其他一些因素也有关[3]。相比成人，儿童哮喘如能做到尽早诊断和规范治疗，多数可得到有效控制[4]。但是如果儿童哮喘未能及时诊断，可能会导致呼吸困难，甚至危及生命。本研究探讨槐杞黄颗粒预防及治疗儿童支气管哮喘的价值及对免疫功能的影响。

1　对象与方法

1.1　对象　选取郑州市儿童医院 2013 年 1 月至 2015 年 1 月收治的支气管哮喘患儿 64 例。纳入标准：符合 2008 年中华医学会儿科学分会呼吸学组修订的儿童哮喘诊断标准[5]；符合《中医儿科病证诊断疗效标准》中气阴两虚证型诊断标准[6]；年龄 1 ~ 14 岁。排除标准[7]：①存在危及生命的严重心血管、肺部疾病；②入院时肝肾功能、血常规、心电图存在异常；③严重营养不良、重症肺炎、携带心脏起搏器；④1 年内使用其他免疫调节剂或相关中药治疗；⑤对中药过敏者；⑥患儿不能配合治疗。将所有患儿完全随机分为观察组和对照组，各 32 例。观察组男 15 例、女 17 例，年龄 1 ~ 14 岁，平均(6.7 ± 1.1)岁；慢性持续期患儿 13 例、临床缓解期患儿 9 例、咳嗽变异性哮喘患儿 10 例；对照组男 16 例、女 16 例，年龄 1 ~ 13 岁，平均(7.0 ± 0.9)岁；慢性持续期患儿 12 例、临床缓解期患儿 11 例、咳嗽变异性哮喘患儿 9 例。2 组患儿性别、年龄、哮喘时期比较差异无统计学意义($P > 0.05$)，具有可比性。本研究经医院伦理委员会批准，所有患儿家属均表示愿意参与本次研究，并签署了知情同意书。

1.2　治疗方法　对照组患儿口服传统治疗支气管哮喘的药物氨茶碱(上海现代哈森药业有限公司，批号：131225)，1 ~ <3 岁，0.1 g/次，2 次/d；≥3 岁，0.2 g/次，2 次/d。观察组患儿口服槐杞黄颗粒(规格每包 10 g，启东盖天力药业有限公司，批号：131109)；具体方法如下：1 ~ <3 岁，0.5 包/次，2 次/d，早晚口服；≥3 岁，1 包/次，2 次/d，早晚口服。用药期间有急性发作患儿，发作缓解后(5 d 内)继续服药，顺延用药时间，用药 2 个月。

1.3　观察指标　观察指标包括临床疗效、患儿哮喘控制程度及免疫功能[8]。临床疗效评定标准：显效，临床症状完全消失，治疗后半年内无发作或发作次数 <3 次；有效，临床症状缓解，患儿治疗后半年内发作次数减少了 1/3 以上；无效，临床症状无好转甚至加重。有效率(%) = (显效例数 + 有效例数)/总例数 × 100%。哮喘控制程度：包括日间症状发作次数，夜间症状发作次数、日间症状发作程度(发作间歇无症状为 1 分、1 ~ 2 d 出现日间症状为 2 分、每天都出现日间症状为 3 分)、夜间症状/觉醒程度(不伴夜间症状或憋醒为 1 分、每月出现 1 ~ 2 次夜间症状或憋醒为 2 分、每月出现 3 次及以上夜间症状或憋醒为 3 分)。免疫功能：包括血清免疫球蛋白 G、A、M(IgG，IgA，IgM)和淋巴细胞亚群，Ig 采用免疫比浊测定法，淋巴细胞亚群采用流式细胞仪测定。

1.4　统计学分析　应用 SPSS 13.0 统计软件进行数据分析。计量资料采用 $\bar{x} \pm s$ 进行描述，组间比较采用独立样本 t 检验；计数资料比较采用 χ^2 检验。$P < 0.05$ 为差异有统计学意义。

2　结果

2.1　2 组患儿临床疗效比较　观察组显效 22 例、有效 9 例、无效 1 例，治疗有效率为 96.9%；对照组显效 17 例、有效 8 例、无效 7 例，治疗有效率为 78.1%，观察组有效率明显高于对照组，差异有统计学意义($P < 0.05$)。

2.2　2 组患儿治疗前后哮喘控制程度比较　2 组患儿治疗前日间症状发作次数、夜间症状发作次数、日间症状发作程度、夜间症状/觉醒程度差异无统计学意义($P > 0.05$)。观察组患儿治疗后日间症状发作程度明显轻于对照组，差异有统计学意义($P < 0.05$)；2 组日间和夜间症状发作次数、夜间症状/觉醒程度差异无统计学意义($P > 0.05$)。见表 1。

表 1　2 组支气管哮喘患儿治疗前后哮喘控制程度比较($\bar{x} \pm s$)

组别	例数	日间症状发作次数(次)	夜间症状发作次数(次)	日间症状发作程度(分)	夜间症状/觉醒程度(分)
对照组	32				
治疗前		1.61 ± 0.13	1.25 ± 0.14	1.65 ± 0.13	0.47 ± 0.16
治疗后		0.85 ± 0.14	0.60 ± 0.16	0.98 ± 0.20	0.29 ± 0.18
观察组	32				
治疗前		1.35 ± 0.11	1.14 ± 0.13	1.62 ± 0.12	1.66 ± 0.11
治疗后		0.33 ± 0.14	0.37 ± 0.12	0.46 ± 0.13[a]	0.18 ± 0.15

注：对照组口服氨茶碱治疗；观察组口服槐杞黄颗粒治疗；与对照组同时间比较，[a]$P < 0.05$

2.3　观察组患儿治疗前后免疫功能变化　治疗前后对观察组患儿进行免疫功能检测，结果表明治疗后观察组患儿 IgA 和 IgM 水平明显降低，IgG 水平明显升高，差异均有统计学意义(均 $P < 0.05$)；总 T 淋巴细胞、抑制性 T 淋巴细胞、辅助性 T 淋巴细胞、自然杀伤细胞水平明显升高，而总 B 淋巴细胞水平明显降低，差异均有统计学意义(均 $P < 0.05$)。见表 2。

表2 32例口服槐杞黄颗粒治疗的支气管哮喘患儿治疗前后免疫功能指标比较($\bar{x} \pm s$)

时间	免疫球蛋白(mg/L)			总T淋巴细胞(%)	T淋巴细胞亚群(%)			总B淋巴细胞(%)
	A	G	M		抑制性T淋巴细胞	辅助性T淋巴细胞	自然杀伤细胞	
治疗前	1.23±0.12	7.04±1.14	1.32±0.42	61.2±5.3	20.0±5.6	31.6±3.3	10.2±4.1	16.9±3.6
治疗后	1.15±0.14[a]	9.24±0.16[a]	1.28±0.20[a]	68.6±2.3[a]	25.8±0.4[a]	35.4±2.5[a]	15.3±1.7[a]	13.6±1.4[a]

注:与治疗前比较,[a]$P<0.05$

3 讨论

儿童支气管哮喘病程长、反复发作、难以治愈,及早治疗、长期坚持治疗效果更佳[9]。对于慢性以及缓解期的哮喘患儿应该采取预防发作的措施,对于咳嗽变异性哮喘的患儿应以治本,防止演变为典型哮喘的措施。中医认为小儿具有"肺常不足、脾常不足、肾常虚"的生理特点,肺肾阴虚则生内热,感寒即发病,导致儿童哮喘中气阴两虚型多见[10]。儿童哮喘为多基因遗传,且与后天环境等因素相关,而遗传因素的多样性和后天因素的复杂性使个体体质存在较大差异。槐杞黄颗粒中含有槐耳(偏于益气)、枸杞子(偏于滋阴)、黄精(气阴并补),对整体之气阴两虚的体质状态具有照顾全面,强壮补养的功效[11]。

T淋巴细胞起到免疫调节作用,可通过分泌多种细胞因子参与哮喘发病,另外B淋巴细胞介导体液免疫[12-17]。现代药理研究认为,槐耳菌质是槐耳菌丝中经固体发酵工程生产的新真菌类药物,其主要成分槐耳菌质多糖(PS-T)是由6种单糖组成的杂多糖,含矿物质元素。PS-T为活性很高的生物反应调节剂,能激发机体免疫系统中诸多环节,从而提高机体的免疫力。在哮喘患儿间歇发作期、轻度发作期及咳嗽变异性哮喘的治疗中并不需要长期吸入糖皮质激素[18-24],因此对于此类患儿配合中药槐杞黄颗粒口服,可填补阶梯治疗方案中西药治疗的空白。

本研究结果表明,观察组患儿临床疗效明显优于对照组,观察组日间症状发作程度明显优于对照组;另外观察组治疗前后免疫学功能有明显改善,差异有统计学意义,提示槐杞黄颗粒能有效减轻支气管哮喘患儿哮喘症状,减少患儿症状发作次数,符合中医已病防变、瘥后防复的理念,从而将儿童哮喘的防、治融为了一体。

总之,槐杞黄颗粒防治支气管哮喘患儿临床疗效明显,长期坚持用药能有效改善患儿的哮喘程度以及免疫学功能。

利益冲突 无

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乳果糖与聚乙二醇 4000 对儿童功能性便秘的临床疗效比较

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【摘要】 目的 比较乳果糖和聚乙二醇 4000 治疗儿童功能性便秘的疗效。**方法** 选择 2012 年 8 月至 2014 年 1 月陆军总医院收治的功能性便秘患儿 117 例,按入院先后顺序随机分为乳果糖组(60 例)和聚乙二醇 4000 组(57 例)。乳果糖组每日晨口服乳果糖口服液 5 ~ 10 ml;聚乙二醇 4000 组每日晨将 10 ~ 20 g 聚乙二醇 4000 溶于 200 ml 水或饮料中服用。治疗 7 d 后评估 2 组患儿的疗效,记录每日有效排便次数、大便性状及伴随症状的改善情况,观察不良反应的发生情况。**结果** 治疗 7 d 后,聚乙二醇 4000 组的总有效率明显高于乳果糖组[89.5%(51/57)比 75.0%(45/60),$P<0.05$]。治疗 3、7 d 后,乳果糖组的每日排便次数依次为(1.3 ± 0.6)、(1.7 ± 0.6)次,聚乙二醇 4000 组的每日排便次数依次为(1.6 ± 0.5)、(1.9 ± 0.5)次。治疗 7 d 后,乳果糖组表现为软便、无硬结者占 46.7%(28/60),聚乙二醇 4000 组表现为软便、无硬结者占 64.9%(37/57)。乳果糖组便秘、腹胀、便痛症状消失时间明显长于聚乙二醇 4000 组,而厌食症状消失时间明显短于聚乙二醇 4000 组[(3.2 ± 2.2)d 比(1.4 ± 1.2)d,(4.7 ± 1.6)d 比(2.0 ± 1.1)d,(3.4 ± 1.3)d 比(1.6 ± 1.3)d,(4.0 ± 1.6)d 比(7.1 ± 1.1)d]($P<0.05$)。乳果糖组腹胀 5 例、腹痛 4 例、腹泻 6 例,聚乙二醇 4000 组腹胀 3 例、腹痛 2 例、腹泻 8 例,2 组不良反应发生率差异无统计学意义。**结论** 乳果糖和聚乙二醇 4000 治疗儿童功能性便秘均安全有效,聚乙二醇 4000 的临床疗效优于乳果糖,但乳果糖在缓解厌食症状方面更有优势。

【关键词】 儿童功能性便秘; 乳果糖; 聚乙二醇 4000
【中图分类号】 R 725.7 **【文献标识码】** A

Efficacy of lactulose and polyethylene glycol 4000 in treating functional constipation in children

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【Abstract】 Objective To analyze the clinical efficacy of lactulose and polyethylene glycol(PEG) 4000 in the treatment of functional constipation in children. **Methods** Totally 117 children with functional constipation from August 2012 to January 2014 in Land Force General Hospital, PLA were randomly divided into lactulose group(60 cases) and PEG 4000 group(57 cases). Lactulose group was given lactulose oral liquid 5-10 ml every morning, PEG 4000 group was given PEG 4000 10-20 g every morning. After 7 d of treatment, the clinical efficacy was analyzed, including effective rate, defecating times, defecating property and constipation associated symptoms. Adverse reactions were observed. **Results** After 7 d of treatment, total effective rate in PEG 4000 group was significantly higher than that in lactulose group[89.5%(51/57) vs 75.0%(45/60), $P<0.05$]. After 3 d and 7 d of treatment, daily defecating times in lactulose group were(1.3 ± 0.6) and (1.7 ± 0.6) times, daily defecating times in PEG 4000 group were(1.6 ± 0.5) and (1.9 ± 0.5) times. After 7 d of treatment, 46.7%(28/60) patients in lactulose group and 64.9%(37/57) patients in PEG 4000 group defecated soft stool. In lactulose group, symptoms of constipation, abdominal distension and defecating pain took longer times to disappear than those in PEG 4000 group, but anorexia symptom disappeared faster than that in PEG 4000 group [(3.21 ± 2.17)d vs (1.42 ± 1.19)d, (4.67 ± 1.63)d vs(1.98 ± 1.09)d, (3.41 ± 1.31)d vs(1.62 ± 1.29)d, (3.99 ± 1.61)d vs (7.08 ± 1.13)d]($P<0.05$). In lactulose group, there were 5 cases of abdominal distension, 4 cases of abdominal pain and 6 cases of diarrhea; in PEG 4000 group, abdominal distension,