

doi: 10.13241/j.cnki.pmb.2024.12.018

暖脐散神阙贴敷联合艾灸治疗脾虚型泄泻患儿效果 及对肠道微生态的影响*

郑晓玉¹ 黄 蛙^{1,2Δ} 刘 宁¹ 李金洋¹ 石欣欣¹

(1 河南中医药大学儿科医学院 河南 郑州 450000; 2 河南中医药大学第一附属医院儿科 河南 郑州 450000)

摘要 目的:分析暖脐散神阙贴敷联合艾灸治疗脾虚型泄泻患儿效果及对肠道微生态的影响。**方法:**选择河南中医药大学第一附属医院自 2021 年 1 月至 2022 年 7 月接诊的 120 例脾虚型泄泻患儿,随机分为对照组和观察组,各 60 例。对照组予以双歧杆菌三联活菌肠溶胶囊、蒙脱石散治疗;观察组在对照组治疗的基础上,加用暖脐散神阙贴敷联合艾灸治疗,其中艾灸取穴:神阙、中脘、足三里、天枢、脾俞、肾俞,治疗 14 d。记录两组患儿症状缓解情况(大便性状正常时间、泄泻停止时间),检测治疗前后肠道屏障功能指标(二胺氧化酶、D-乳酸)、肠道菌群数量(双歧杆菌、乳酸杆菌、粪球菌、大肠杆菌)、血清炎症因子(白介素-6、白介素-8、肿瘤坏死因子 α)。**结果:**对比对照组,观察组大便性状正常时间、泄泻停止时间均更短($P<0.05$);治疗后,观察组血清二胺氧化酶、D-乳酸水平均低于对照组($P<0.05$);治疗后,对比对照组,观察组血清白介素-6、白介素-8、肿瘤坏死因子 α 水平更低($P<0.05$);治疗后,对比对照组,观察组双歧杆菌、乳酸杆菌的数量更多,粪球菌、大肠杆菌数量更少($P<0.05$);观察组总有效率为 93.33%,对比对照组的 83.33%($P<0.05$)。**结论:**暖脐散神阙贴敷联合艾灸治疗脾虚型泄泻患儿效果显著,有助于缩短病程、改善肠道屏障功能和肠道微生态。

关键词:泄泻;脾虚型;暖脐散神阙贴敷;艾灸;肠道微生态

中图分类号:R256.34;R243 文献标识码:A 文章编号:1673-6273(2024)12-2298-04

Effect of Nuangqi Sanshenque Patch Combined with Moxibustion on Children with Splenic Deficiency Diarrhea and Its Influence on Intestinal Microecology*

ZHENG Wan-yu¹, HUANG Shen^{1,2Δ}, LIU Ning¹, LI Jin-yang¹, SHI Xin-xin¹

(1 School of Pediatrics, Henan University of Chinese Medicine, Zhengzhou, Henan, 450000, China;

2 Department of Pediatrics, The First Affiliated Hospital of Henan University of Chinese Medicine, Zhengzhou, Henan, 450000, China)

ABSTRACT Objective: To analyze the effect of Nuangqi Sanshenque patch combined with moxibustion on children with splenic deficiency diarrhea and its influence on intestinal microecology. **Methods:** 120 children with spleen deficiency diarrhea admitted to The First Affiliated Hospital of Henan University of Chinese Medicine from January 2022 to July 2023 were randomly divided into control group and observation group, 60 cases in each group. The control group was treated with bifidum triple viable bacteria capsule and montmorillonite powder; On the basis of the control group, the observation group was treated with warm umbilical Sanshenque patch combined with moxibustion. The moxibustion points were Shenque, Zhongwan, Zusanli, Tianshu, Pishu and Shenshu for 14 days. Symptom relief (normal time of stool traits and stop time of diarrhea) of the children in the two groups were recorded, and intestinal barrier function indexes (diamine oxidase, D-lactic acid), intestinal flora number (bifidobacterium, lactobacillus, fecal coccus, Escoli), serum inflammatory factors (interleukin-6, interleukin-8, tumor necrosis factor α) before and after treatment were detected. **Results:** Compared the control group, the observation group shit character normal time and diarrhea stop time are shorter ($P<0.05$). After treatment, the observation group of serum diamine oxidase, D-lactic acid levels are lower than the control group ($P<0.05$). After treatment, compared to control group and observation group serum interleukin 6 and interleukin 8, tumor necrosis factor alpha levels are lower ($P<0.05$). After treatment, compared to control group and observation group more the number of bifidobacterium, lactobacillus, less number of dung aureus, escherichia coli ($P<0.05$). Observation group total effective rate is 93.33%, compared to 83.33% of the control group ($P<0.05$). **Conclusion:** Nuanqi Sanshenque patch combined with moxibustion is effective in the treatment of children with splenic deficiency diarrhea, which is helpful to shorten the course of disease, improve intestinal barrier function and intestinal microecology.

* 基金项目:河南省中医药科学研究专项课题(2021JDZY032)

作者简介:郑晓玉(1995-),女,硕士研究生,住院医师,研究方向:中医药防治小儿感染与消化疾病研究,E-mail:zhengwy1995@163.com

Δ 通讯作者:黄蛙(1970-),男,硕士研究生,主任医师,研究方向:中医药防治小儿感染与消化疾病研究,E-mail:zhengwy1995@163.com

(收稿日期:2023-11-08 接受日期:2023-11-30)

Key words: Diarrhea; Spleen deficiency type; Warm umbilical powder Shenque paste; Moxibustion; Intestinal microecology

Chinese Library Classification(CLC): R256.34; R243 **Document code:** A

Article ID: 1673-6273(2024)12-2298-04

前言

泄泻又称腹泻,以大便性状异常和频次增多为特征,严重者可导致脓血便、脱水,其中急性泄泻与肠道感染有关,慢性泄泻的原因复杂^[1]。对于小儿泄泻,发病率较高,病情较为特殊,与其肠道结构异常、功能未成熟和喂养不当等因素有关。尽管双歧三联活菌胶囊、蒙脱石散治疗泄泻患儿的效果相对确切,但并不能从根本上控制病情,仍停留在对症支持治疗阶段,导致患儿的疗效缓慢、复发率高^[2]。近年来,越来越多证据表明,中医药治疗小儿泄泻的效果较好,可用于辅助治疗小儿泄泻,能提高患儿的疗效^[3-4]。中医学认为,小儿泄泻多属于脾虚型,与饮食不洁、病邪侵袭,损伤肠道,导致脾胃寒虚有关,宜以健脾理气、祛湿化痰为辨证治疗原则,目的是改善肠道屏障功能和肠道微生态^[5]。现阶段,穴位贴敷、艾灸等均是中医针对小儿泄泻的常用治疗手段,鉴于神阙穴具有温阳健脾和升清降浊的作用,通过暖脐散神阙贴敷,结合艾灸神阙、中脘、肾俞等穴位,有望进一步调理脏腑功能,促进小儿泄泻的病情转归。与此同时,现代医学认为,肠道微生态异常是小儿泄泻的重要因素,亦是导致患儿迁延难愈的主要因素^[6],然而暖脐散神阙贴敷联合艾灸治疗对肠道微生态的影响如何,有待商榷,相关研究鲜有报道。对此,本研究目的在于分析暖脐散神阙贴敷联合艾灸治疗脾虚型泄泻患儿效果及对肠道微生态的影响。

1 资料与方法

1.1 一般资料

选择河南中医药大学第一附属医院自2021年1月至2022年7月接诊的120例脾虚型泄泻患儿,随机分为对照组和观察组,各60例。其中对照组男34例、女26例;中位年龄3.15岁(8个月-6岁);中位病程3.12周(1-8周);观察组男32例、女28例;中位年龄3.26岁(8个月-6岁);中位病程3.09周(1-8周);两组性别、年龄和病程均衡,具有可比性($P>0.05$)。

1.2 纳入标准和排除标准

纳入标准:(1)年龄6个月-6岁;(2)符合泄泻的诊断标准,每日大便次数不少于3次,每日粪便量增加超过200g,含水量超过85%,性状异常,或伴有其他胃肠道症状,且大便常规检测结果正常^[7];(3)中医辨证为脾虚型,表现为久泻不止,大便稀不成形,精神状态差,多于食后泄泻,色淡不臭^[8];(4)轻、中度泄泻,未见严重的电解质紊乱;(5)患儿监护人知悉诊治项目并配合研究开展。

排除标准:(1)患有恶性肿瘤、精神障碍及其他胃肠道疾病者;(2)近期已接受活性益生菌治疗者;(3)严重泄泻、病情危重且脱水者;(4)具有暖脐散神阙贴敷或艾灸治疗禁忌证者;(5)感染性、中毒性泄泻者。

1.3 研究方法

对照组予以双歧杆菌三联活菌肠溶胶囊(生产企业:晋城海斯制药有限公司,规格:210mg×36粒,国药准字

S19993065)、蒙脱石散(生产企业:哈药集团中药二厂,规格:3克/袋,国药准字H20093375)治疗,其中双歧杆菌三联活菌肠溶胶囊每次1粒,每日3次;蒙脱石散每日1-3袋(1岁以下每日1袋,1-2岁每日1-2袋,2岁以上每日2-3袋),平均分3次服用。观察组在对照组治疗的基础上,加用暖脐散神阙贴敷联合艾灸治疗,其中暖脐散的药物组成:白胡椒、炒苍术各30g,砂仁、公丁香各10g,吴茱萸、肉桂各5g,经研磨并姜汁、白醋混合,制成药膏,每次取适量放置于贴片,并贴敷神阙穴,每次贴敷5h,每日1次,治疗14d;结合艾灸治疗,取穴:神阙、中脘、足三里、天枢、脾俞、肾俞,各灸5min,每日2次,治疗14d。

1.4 观察指标

记录两组患儿症状缓解情况(大便性状正常时间、泄泻停止时间);在治疗前1d及完成疗程后1d,抽取患儿的静脉血样及粪便样品进行检测;其中血样经离心处理,分离血清,使用酶联免疫吸附试验检测血清肠道屏障功能指标(二胺氧化酶、D-乳酸)、炎症因子(白介素-6、白介素-8、肿瘤坏死因子 α)表达水平;提取患儿的粪便样品并进行微生物培养,检测肠道菌群数量(双歧杆菌、乳酸杆菌、粪球菌、大肠杆菌)。

1.5 疗效判断标准

根据患儿大便次数、性状及饮食的恢复程度进行疗效判断,其中治愈:大便次数、性状及饮食均恢复正常;好转:大便次数减少,大便成形,其他症状未明显改善;无效:经治疗后各项症状并未改善或病情加重^[9]。

1.6 数据处理

采用SPSS23.0软件对两组计量资料使用t检验,计数资料使用 χ^2 检验;若 $P<0.05$,提示差异显著。

2 结果

2.1 两组症状缓解情况(大便性状正常时间、泄泻停止时间)比较

对比对照组,观察组大便性状正常时间、泄泻停止时间均更短($P<0.05$);数据见表1。

2.2 两组血清肠道屏障功能指标(二胺氧化酶、D-乳酸)比较

治疗后,观察组血清二胺氧化酶、D-乳酸水平均低于对照组($P<0.05$);数据见表2。

2.3 两组肠道菌群数量(双歧杆菌、乳酸杆菌、粪球菌、大肠杆菌)比较

治疗后,对比对照组,观察组双歧杆菌、乳酸杆菌的数量更多,粪球菌、大肠杆菌数量更少($P<0.05$);数据见表3。

2.4 两组血清炎症因子(白介素-6、白介素-8、肿瘤坏死因子 α)比较

治疗后,对比对照组,观察组血清白介素-6、白介素-8、肿瘤坏死因子 α 水平更低($P<0.05$);数据见表4。

2.5 两组临床疗效(总有效率)比较

观察组总有效率为93.33%,对比对照组的83.33%($P<0.05$);数据见表5。

表 1 两组症状缓解情况(大便性状正常时间、泄泻停止时间)比较(h)

Table 1 Comparison of symptom relief (normal time of stool traits and stopping time of diarrhea) between the two groups (h)

Groups	n	Fecal trait normal time	Discharge stop time
Control group	60	48.42± 5.63	55.17± 6.78
Observation group	60	44.08± 3.29	47.36± 4.92
t		12.426	18.741
P		0.000	0.000

表 2 两组血清肠道屏障功能指标(二胺氧化酶、D-乳酸)比较(mg/L)

Table 2 Comparison of serum intestinal barrier function indexes (diamine oxidase, D-lactate) between the two groups (mg/L)

Groups		Diamineoxidase	D-Lactate
Control group	Pretherapy	48.56± 6.30	169.82± 19.05
	Post-treatment	26.42± 4.73	116.39± 12.28
Observation group	Pretherapy	47.94± 6.58	171.23± 18.74
	Post-treatment	16.45± 3.07*	65.32± 7.41*

Note: compared with Control group, *P<0.05, the same below.

表 3 两组肠道菌群数量(双歧杆菌、乳酸杆菌、粪球菌、大肠杆菌)比较(× 10⁷/cfu/g)

Table 3 Comparison of the number of intestinal flora (*bifidobacterium*, *Lactobacillus*, *faecoccus*, *E. coli*) between the two groups (10⁷/cfu/g)

Groups		Bacillus bifidus	Bacillus acidi lactici	Feconium	Bacillus coli
Control group	Pretherapy	3.86± 0.62	5.82± 0.73	8.46± 1.23	10.81± 1.43
	Post-treatment	6.58± 0.89	8.79± 0.97	6.17± 0.87	7.46± 1.06
Observation group	Pretherapy	3.91± 0.56	5.86± 0.69	8.51± 1.34	10.79± 1.35
	Post-treatment	11.25± 1.37*	12.34± 1.31*	4.63± 0.65*	4.01± 0.78*

表 4 两组血清炎症因子(白介素-6、白介素-8、肿瘤坏死因子α)比较(pg/mL)

Table 4 Comparison of serum inflammatory factors (interleukin-6, interleukin-8, tumor necrosis factor α) between the two groups (pg/mL)

Groups		Interleukin-6	Interleukin-8	Tumor necrosis factor α
Control group	Pretherapy	30.36± 5.71	7.85± 1.46	28.79± 5.68
	Post-treatment	16.98± 3.14	4.64± 1.12	19.02± 3.62
Observation group	Pretherapy	31.02± 5.63	7.91± 1.35	29.12± 5.91
	Post-treatment	10.78± 1.75*	3.06± 0.87*	11.64± 2.73*

表 5 两组临床疗效(总有效率)比较[n(%)]

Table 5 Comparison of clinical efficacy (total response rate) between the two groups [n (%)]

Groups	n	Cure	Improve	Invalid	Total effective rate
Control group	60	27(45.00)	23(38.33)	10(16.67)	83.33
Observation group	60	32(53.33)	24(40.00)	4(6.67)	93.33
χ^2					8.745
P					0.016

3 讨论

小儿脾虚泄泻的治疗较为棘手,且病程较长,若未能及时控制病情,可能会影响患儿生长发育,导致营养不良、生长障碍等。尽管现代医学针对小儿脾虚泄泻的治疗手段较多,如双歧

三联活菌胶囊、蒙脱石散及抗生素,目的是改善肠道粘膜、调节肠道菌群和抑制致病菌,以缓解症状^[10]。然而小儿脾虚泄泻的病情复杂,传统治疗存在取效慢、疗程长和复发率高的缺点,有必要联合中医手段治疗,以经缓解泄泻症状上取得进展。中医学认为小儿脾虚泄泻属于“泄泻”范畴,与脾虚有关。正如《医

宗必读》记载：“脾虚泄之因”，该文献指出：脾虚泄泻的发生与饮食、体质和基础性疾病等关系密切。由于小儿的胃肠功能尚未完善，脾气素虚，易因饮食不节、过食寒热，损伤脾胃，导致脾虚泄泻这一病症的出现，宜以健脾扶正为治疗原则^[1]。杨周剑^[2]等研究指出，小儿脾虚泄泻的病灶位于脾胃和大肠，主要通过健脾祛湿法治疗此病，亦与本研究观点相符。在本研究中，观察组在常规治疗的基础上，加用暖脐散神阙贴敷联合艾灸治疗，结果显示：观察组总有效率较对照组进一步明显提高，与欧阳俊辉^[13]等的研究结果相符，提示暖脐散神阙贴敷联合艾灸有助于提高小儿脾虚泄泻的疗效。

神阙贴敷是一种中医学外治法，归功于神阙穴具有孕育胚胎、输布精气的作用，尤其适用于小儿，具有操作简便、性价比高和安全性好的优点^[4]。另外，中医经络学认为，神阙隶属任脉，可联络机体各组织器官及十二经脉。从现代医学解剖学角度来看，神阙穴周围分布密集的神血管，神阙穴具有很好的传导功能，通过药物施治神阙穴，可刺激其深层的神经末梢，产生增强免疫功能、调节组织器官生理活动的作用^[5,16]。在本研究中，通过暖脐散贴敷神阙穴，使药物中有效成分由经脉输送至胃肠，有助于促进脾、胃、肠经络气血，平衡脾、胃、肠阴阳，增强脾、胃、肠功能，恢复脾胃的气血运化和升清降浊功能，以于改善患儿的消化功能具有积极作用。在本研究使用的暖脐散中，重用白胡椒，旨在温中散寒、健脾下气，辅以炒苍术燥湿健脾，砂仁温脾止泻、理气化湿，公丁香暖肾助阳，行气止痛，吴茱萸助阳止泻，肉桂温通经脉，共奏温补脾肾、升提止泻的功效，使脾主运化的功能得到恢复，侵袭的外邪得以祛除，诸证得以消失^[17,18]。与此同时，本研究还使用艾穴治疗小儿脾虚泄泻，取穴：神阙、中脘、足三里、天枢、脾俞、肾俞，具有温补脾肾、固肠止泻的功效^[19,20]。由此不难看出，暖脐散神阙贴敷联合穴治疗小儿脾虚泄泻，与其病机十分吻合。

药理学研究表明，白胡椒具有促进消化、抗菌消炎的作用，炒苍术具有调节胃肠蠕动和止泻的作用，砂仁具有抑制胃酸分泌的作用，丁香具有杀虫和促进吸收作用，吴茱萸具有明显的止吐止泻和拮抗胃肠道粘膜损伤的作用，肉桂具有抗氧化、抗炎和杀菌的作用^[21,22]。上述5种药物成分的共同作用于脾虚泄泻患儿，有助于调节小肠蠕动和恢复其吸收功能，尤其在改善肠道微生态上具有优势。另外，现代医学认为，艾灸治疗中释放的热量作用于神阙、中脘、足三里、天枢、脾俞、肾俞这些穴位，可以扩张血管、促进血液循环、减轻炎症水肿、缓解症状、恢复紊乱的机体代谢和增强免疫功能，有助于小儿脾虚泄泻的病情转归^[23,24]。从本研究结果可知，观察组大便性状正常时间、泄泻停止时间均短于对照组；与此同时，治疗后，观察组血清二胺氧化酶、D-乳酸、白介素-6、白介素-8、肿瘤坏死因子 α 水平均低于对照组，双歧杆菌、乳酸杆菌的数量均多于对照组，粪球菌、大肠杆菌数量均少于对照组，与唐勤勤^[25]等的研究结果相契合；提示了暖脐散神阙贴敷联合穴治疗小儿脾虚泄泻，能有效地改善患儿的临床症状，改善肠道屏障功能，调节肠道微生态，抑制炎症反应。分析认为，小儿脾虚泄泻的发生与脾胃不和有关，而暖脐散神阙贴敷，可温补脾肾、通达气血，结合艾灸治疗，可以缩短病程，提高疗效。

综上所述，暖脐散神阙贴敷联合艾灸治疗脾虚型泄泻患儿

效果显著，有助于缩短病程、改善肠道屏障功能和肠道微生态。但本研究规模较小，患儿的异质性较大，停留在单中心研究阶段，导致研究结果难免存在偏倚，日后仍需扩大研究规模，深入分析暖脐散神阙贴敷联合艾灸治疗脾虚型泄泻患儿的具体作用机制，为该疗法治疗小儿脾虚型泄泻提供更高级的临床证据支持。

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