doi: 10.13241/j.cnki.pmb.2019.21.017

解毒活血汤促进肛周脓肿术后创面愈合的效果分析 *

姜 帅[1] 杨丽丽[1] 杨 威[1] 赵 婴[1] 张 磊[1△] 赵继荣[2]

（1 陕西中医药大学 西安附属医院西安市中医医院肛肠科 陕西 西安 710069；2 甘肃省中医院 甘肃 兰州 730050）

摘要 目的：研究解毒活血汤治疗肛周脓肿术后患者创面愈合的临床效果及可能机制。**方法：**选择 2017 年 1 月～2019 年 1 月我院肛肠科三病区收治的 300 例肛周脓肿患者，根据其就诊的顺序，随机数字表法均分为两组，各 150 例，两组均采取一期肛周脓肿根治术治疗，对照组于术后采用高锰酸钾溶液坐浴疗法，观察组于术后联合服用解毒活血汤治疗。均治疗 4 w 后，比较两组创面愈合的有效率，肛周脓肿患者创面的愈合时间和视觉模拟评分(visual analogue scale,VAS)评分，治疗前后肉芽组织中的血红蛋白含量、羟脯氨酸含量、血管内皮生长因子水平以及组织微血管计数。**结果：**治疗后，观察组创面愈合的总有效率明显高于对照组(90.67 vs. 71.33%，$P<0.05$)；观察组肛周脓肿患者创面愈合的时间明显短于对照组($P<0.05$)。对照组治疗前后的肉芽组织中的血红蛋白含量、羟脯氨酸含量、血管内皮生长因子水平以及组织微血管计数无明显的差异($P>0.05$)，观察组治疗后的肉芽组织中的血红蛋白含量、羟脯氨酸含量、血管内皮生长因子水平以及组织微血管计数明显高于治疗前和对照组($P<0.05$)。观察组术后 3 d、1 w 和 2 w 的 VAS 评分均明显低于对照组($P<0.05$)。**结论：**解毒活血汤可能通过提升肉芽组织中的血红蛋白含量、羟脯氨酸含量、血管内皮生长因子水平以及组织微血管计数有效促进肛周脓肿术后的创面愈合，减轻术后疼痛。

关键词：解毒活血汤；肛周脓肿术；创面愈合；肉芽组织；疼痛

中图分类号：R657.15；R242 **文献标识码：**A **文章编号：**1673-6273(2019)21-4076-04

Effect of Jiedu Huoxue Decoction on the Wound Healing after Operation of Perianal Abscess*

JIANG Shuai[1], YANG Li-li[1], YANG Wei[1], ZHAO Zhao[1], ZHANG Lei[1△], ZHAO Ji-rong[2]

(1 Department of proctology, Xi'an traditional Chinese medicine hospital affiliated to shaanxi university of traditional Chinese medicine, Xi'an, Shaanxi, 710069, China; 2 Gansu provincial hospital of TCM, Lanzhou, Gansu, 730050, China)

ABSTRACT Objective: To investigate the clinical promotion effect and possible mechanism of Jiedu Huoxue Decoction on wound healing in patients with perianal abscess. **Methods:** Selected 300 cases of patients with perianal abscess who were treated in our hospital from January 2017 to January 2019, according to the order of their visits, the random number table method is divided into two groups, 150 cases each. Both groups were treated with one-stage radical operation for perianal abscess. The control group was treated with potassium permanganate solution hip bath after operation, while the observation group was treated with Jiedu Huoxue Decoction after operation. After 4 weeks of treatment, the total effective rate of wound healing was compared between the two groups. Whee healing time and visual analogue scale (VAS) score in patients with perianal abscess. The content of hemoglobin, hydroxyproline, vascular endothelial growth factor and microvessel count in granulation tissue were measured before and after treatment. **Results:** After treatment, the total effective rate of the observation group was significantly higher than control group (90.67 vs. 71.33%, $P<0.05$). The healing time of perianal abscess patients in the observation group was significantly shorter than that in the control group ($P<0.05$). There were no significant differences in hemoglobin content, hydroxyproline content, vascular endothelial growth factor level and tissue microvessel count before and after treatment in the control group ($P>0.05$). The hemoglobin content, hydroxyproline content, vascular endothelial growth factor level and tissue microvessel count in the observation group after treatment were significantly higher than those before treatment and in the control group ($P<0.05$). The VAS score of the observation group on the 3rd, 1st and 2nd day after operation was significantly lower than that of the control group ($P<0.05$). **Conclusion:** Jiedu Huoxue Decoction can effectively promote wound healing after perianal abscess and improve postoperative pain by increasing hemoglobin content, hydroxyproline content, vascular endothelial growth factor level and tissue microvessel count in granulation tissue.

Key words: Jiedu Huoxue Decoction; Perianal abscess surgery; Wound healing; Granuloma tissue; Pain

Chinese Library Classification(CLC): R657.15; R242 Document code: A

Article ID: 1673-6273(2019)21-4076-04

* 基金项目：国家自然科学基金项目(81760877)

作者简介：姜帅(1978-)，男，硕士，主治医师，主要研究方向：肛肠外科方面，电话：13468933213，E-mail：jiangvictor197806@163.com

△ 通讯作者：张磊(1983-)，男，本科，主治医师，主要研究方向：中西医结合治疗肛肠病，E-mail：zlyunxagc@126.com

(收稿日期：2019-04-03 接受日期：2019-04-27)

前言

肛周脓肿在所有的肛肠科疾病中约占25%[1]。由于肛门具有比较特殊的解剖位置，术后创面极易被患者的排泄物所污染，且会发生组织再生、血管充血和血栓栓塞等病理改变，从而显著延缓了创面愈合所需要的时间[2-4]。现代肛肠科针对肛周脓肿术后患者主要采取换药以及抗生素控制感染，但是治疗的周期比较长，患者的创面水肿以及疼痛程度比较明显，给患者造成较大的身心痛苦，加上长时间使用抗生素容易造成菌群紊乱，导致肛门瘙痒等并发症，极易出现耐药菌群，不利于创面的愈合[5,6]。

近年来，中医针灸、中药外敷和内服等方法在肛周脓肿术后的治疗中显示了较为满意的临床疗效，特别是中药内服法逐渐成为加速术后创面愈合的重要方法。解毒活血汤是临床上常用的一种中药汤剂，由多种中药组成，具有凉血止血、燥湿泻火、清热解毒、散瘀活血等功效。主要用于治疗难治性肾病综合征、银屑病、慢性肾功能衰竭、慢性神经炎、带状疱疹后遗神经痛、急性心肌梗死等疾病。通过抑制多种病原菌，消炎，减少炎症反应，增强机体的免疫力，改善症状。但尚未见其应用于肛周脓肿术后的研究。鉴于此，本研究主要分析了解毒活血汤对肛周脓肿术后创面愈合的效果。

1 资料与方法

1.1 一般资料

选择我院收治的300例肛周脓肿患者，时间段为2017年1月～2019年1月，纳入标准：符合肛周脓肿的诊断标准[7]，可以按医嘱服药，签署知情同意书，无严重的泌尿系统、循环系统和神经系统等原发性疾病，无理解力和认知障碍者。排除标准：伴有克罗恩病、溃疡性结肠炎、糖尿病以及肠结核等有可能会对创面愈合造成不良影响的疾病患者；合并有认知功能障碍、心理障碍、神经系统疾病患者；有手术禁忌症患者；有肛乳头瘤以及混合痔等其他的肛肠疾病患者；恶性肿瘤患者。根据患者就诊的顺序，采取随机数字表法将所有患者随机分为两组。观察组150例，男105例，女45例；年龄22~69岁，平均(40.38± 12.95)岁；病程3～14天，平均(7.42± 1.59)天；术后原始的创面面积平均为(9.53± 2.46)cm^2。对照组150例，男107例，女43例；年龄22~70岁，平均(41.27± 13.46)岁；病程3~15天，平均(7.29± 1.43)天；术后原始的创面面积平均为(9.57± 2.31)cm^2。两组的基线资料比较冲压均无统计学意义(P>0.05)，具有可比性。

1.2 治疗方法

两组均采取一期肛周脓肿根治术治疗。对照组于术后采用高锰酸钾溶液坐浴疗法，稀释浓度为1:5000，每次坐浴治疗5~10 min，坐浴后将药液擦净，然后在创面部位适量涂抹0.5 %的碘伏，再采取用生理盐水浸透的无菌纱布敷贴在患者的创面上，每天2次。观察组于术后联合服用解毒活血汤治疗，方剂的具体组成如下：赤芍14 g，升麻8 g，桃仁8 g，牡丹皮8 g，荆芥炭8 g，当归5 g，生地黄14 g，槐角14 g，白及14 g，丹参18 g，败酱草18 g，蒲公英14 g，仙鹤草18 g，甘草8 g，金银花18 g，苍术14 g，地榆8 g。常规水煎至300 mL，每天1剂，分早晚两次服用。两组肛周脓肿患者均治疗4周。

1.3 观察指标

① 判定创面愈合效果的标准[7]如下：(1)治愈：治疗4周后，肛周脓肿患者的创面上皮全部被覆盖，疤痕比较坚硬，随访观察1周并未再次发生溃烂；(2)显效：治疗4周后，肛周脓肿患者的症状明显缓解，创面上皮的面积与治疗前相比缩小≥ 75 %；(3)有效：治疗4周后，肛周脓肿患者的症状有所缓解，创面上皮的面积与治疗前相比缩小≥ 25 %；(4)无效：治疗4周后，肛周脓肿患者的症状没有缓解，创面面积没有缩小。

② 记录两组肛周脓肿患者创面的愈合时间，>15 d，≤ 15 d和≤ 10 d的例数。

③ 采取视觉模拟评分(visual analogue scale,VAS)评估术后1 d、3 d、1 w和2 w的疼痛程度。其中，0分表示无痛；1~3分表示出现轻微的疼痛感，但是可以忍受；4~6分表示患者的疼痛程度会对睡眠造成影响；7~10分表示患出现无法忍受的严重疼痛感，影响睡眠和食欲。

④ 检测两组治疗前后肉芽组织中的血红蛋白含量、羟脯氨酸含量、血管内皮生长因子水平以及组织微血管计数。

1.4 统计学分析

数据采用SPSS22.0软件进行统计学分析，计量资料组间对比用t检验，计数资料组间比较采用x^2检验，以P<0.05为差异有统计学意义。

2 结果

2.1 两组创面愈合有效率的比较

治疗后，观察组创面愈合总有效率为90.67%，显著高于对照组(71.33%，P<0.05)，见表1。

表1 两组创面愈合效果的有效率比较[例(%)]

Table 1 Comparison of the efficiency of wound healing between the two groups[n(%)]

Groups	n	Cure	Effective	Valid	Invalid	The total effect rate
Control group	150	73(48.67)	20(13.33)	14(9.33)	43(28.67)	107(71.33)
Observation group	150	101(67.33)	22(14.67)	13(8.67)	14(9.33)	136(90.67)*

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

2.2 两组创面愈合时间的比较

治疗后，观察组肛周脓肿患者创面愈合时间明显短于对照组(P<0.05)，见表2。

2.3 两组治疗前后血红蛋白含量、羟脯氨酸含量、血管内皮生长因子水平以及组织微血管计数的比较

对照组治疗前后的肉芽组织中的血红蛋白含量、羟脯氨酸含量、血管内皮生长因子水平以及组织微血管计数无明显的差异(P>0.05)，观察组治疗后上述指标明显高于治疗前和对照组(P<0.05)，见表3。

表 2 两组肛周脓肿患者创面的愈合时间比较($x\pm s$, d)

Table 2 Comparison of the wound healing time between two groups of patients with perianal abscess($\bar{x}\pm s$, d)

Groups	n	Wound healing time	>15 d [n (%)]	≤ 15 d [n(%)]	≤ 10 d [n(%)]
Control group	150	17.42± 4.38	78(52.00)	60(40.00)	12(8.00)
Observation group	150	14.53± 2.95*	60(40.00)*	57(38.00)	32(21.33)*

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

表 3 两组治疗前后血红蛋白含量、羟脯氨酸含量、血管内皮生长因子水平及组织微血管计数比较($\bar{x}\pm s$)

Table 3 Comparison of the hemoglobin content, hydroxyproline content, vascular endothelial growth factor level and tissue microvessel count between the two groups before and after treatment ($\bar{x}\pm s$)

Groups		Hemoglobin content (g/mg)	Hydroxyproline content (g/mg)	Vascular endothelial growth factor (ng/mg)	Tissue microvessel count
Control group (n=150)	Before treatment	0.68± 0.09	0.72± 0.08	69.36± 6.14	10.23± 2.14
	After treatment	0.72± 0.10	0.75± 0.09	72.51± 6.34	11.76± 2.38
Observation group (n=150)	Before treatment	0.69± 0.07	0.73± 0.09	70.25± 6.53	10.25± 2.37
	After treatment	1.37± 0.12*#	1.36± 0.11*#	98.76± 10.12*#	21.57± 4.32*#

Note: Compared with the control group, *P<0.05; compared with before treatment, #P<0.05.

2.4 两组治疗前后 VAS 评分的比较

观察组术后 3 d、1 w 和 2 w 的 VAS 评分明显低于对照组(P<0.05),见表 4。

表 4 两组治疗前后的 VAS 评分比较($\bar{x}\pm s$,分)

Table 4 Comparison of the VAS score between two groups before and after treatment($\bar{x}\pm s$, score)

Groups	n	After operation1 d	After operation 3 d	After operation 1 w	After operation 2 w
Control group	150	7.34± 1.12	6.35± 1.07	4.92± 0.73	3.28± 0.54
Observation group	150	7.35± 1.23	5.42± 0.83*	3.54± 0.62*	1.36± 0.39*

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

3 讨论

手术是肛周脓肿患者最为有效的治疗方法,但手术仍无法完全切除坏死的组织,术后坏死组织需要经过脱落腐败组织以及修复肉芽组织的过程[8,9]。而且肛周脓肿术后的创面具有开放性的特点,极易被排泄物污染而延缓愈合速度[10-12]。此外,肛周脓肿术后的创面面积比较大,排便时往往会出现撕裂样疼痛。加上术后的局部炎症反应也会显著加重创面的疼痛程度,不利于创面的快速愈合,严重降低了肛周脓肿患者的生活质量[13-16]。术后的创面愈合是临床治疗肛周脓肿的关键环节。选择有效且合理的药物缓解术后疼痛,促进创面的快速愈合是肛肠科临床医师研究的热点问题[17-19]。

中医认为肛周脓肿的发病是由于毒阻经络,瘀血凝滞,热盛血败肉腐而导致。肛周脓肿术虽可以有效去除病灶,但皮肤以及肌肉会受到损伤,造成脉络断裂、经气被激、气血瘀滞于络外,经脉气血不畅,加上大便摩擦或者气血虚弱,导致新肉生长的速度比较缓慢。本研究采用的解毒活血汤中,生地黄有补血凉血的效果,荆芥炭有止血的效果,地榆及苍术可以燥湿泻火、凉血止血,升麻可以清热解毒、升举阳气,槐角有止血凉血的效果,败酱草有清热解毒和凉血的效果,金银花及蒲公英有清热解毒的效果,白及和仙鹤草有收敛止血的效果,其余药物具有散瘀活血的功效。诸药联合共奏燥湿凉血、活血止血的功效[20-23]。

本研究结果表明解毒活血汤能有效促进肛周脓肿术后的创面愈合。主要原因是解毒活血汤能够促进水肿的消退,加快创面的愈合,从而提高治疗效率,既往研究表明肉芽血红蛋白含量的增加可加快创面愈合的速度[24-26]。血管内皮生长因子是临床上唯一被发现的可以发挥作用于血管内皮细胞的生长因子、可以使受体的酪氨酸激酶得以激活,有效促进血管内皮细胞发生增殖[27-30]。本研究显示联合应用解毒活血汤可有效促进肛周脓肿术后肉芽组织中血红蛋白和羟脯氨酸的含量,刺激肉芽组织中血管内皮生长因子的分泌,促进血管的新生。同时解毒活血汤能够清热活血,能够抑制病原菌,改善肛周脓肿术后局部的微循环,舒张局部血管,降低血管阻力,增加血管的血流量,促进血液循环,使局部成纤维细胞增长、激活,从而增强了创面的免疫活性细胞氧化代谢能力,提高了创面的快速愈合[31]。这可能是解毒活血汤促进肛周脓肿术后的创面愈合的机制。此外,观察组术后 3 d、1 w 和 2 w 的 VAS 评分明显低于对照组,表明解毒活血汤还可有效减轻患者的疼痛,有利于创面愈合。

综上所述,解毒活血汤可能通过提升肉芽组织中的血红蛋白含量、羟脯氨酸含量、血管内皮生长因子水平以及组织微血管计数有效促进肛周脓肿术后的创面愈合,减轻术后疼痛。

参 考 文 献(References)

[1] Amaranathan A, Sahoo A K, Barathi D, et al. Retroperitoneal Necrotizing Fasciitis Masquerading as Perianal Abscess - Rare and Perilous

[J]. Cureus, 2017, 9(1): e982-e992

[2] Ghahramani L, Minaie M R, Arasteh P, et al. Antibiotic therapy for prevention of fistula in-ano after incision and drainage of simple perianal abscess: A randomized single blind clinical trial [J]. Surgery, 2017, 162(5): 1017-1025

[3] Okoro K U, Espriella M G D L, Grider D J, et al. Tuberculous Enteritis Presenting as Acute Appendicitis and Perirectal Abscess[J]. Case Reports in Medicine, 2018, 2018(7): 1-5

[4] Chen Y, Wang X, Lin G, et al. Successful treatment following early recognition of a case of Fournier's scrotal gangrene after a perianal abscess debridement: a case report [J]. Journal of Medical Case Reports, 2018, 12(1): 193-200

[5] Chee Y C, Chee Y N. An unusual case of primary melioidotic prostatic abscess complicated by perianal abscess[J]. Idcases, 2018, 11: 51-52

[6] Butt U I, Bhatti S, Wadood A, et al. A case report of pneumo-retro-peritoneum: An unusual presentation of ischio-rectal abscess [J]. Annals of Medicine & Surgery, 2017, 20: 66-68

[7] Steele SR, Kumar R, Feingold DL, et a1. Practice parame for the management of perianal abscess and fistula-in-ano[J]. Dis Colon Rectum, 2011, 54(12): 1465-1474

[8] Lee M, Izzy M, Ho S. Novel use of fully covered self-expandable metal stent for drainage of perirectal abscess. A case series[J]. Arab Journal of Gastroenterology, 2017, 18(2): 122-125

[9] Choi E K, Kim J H, Jeong S U, et al. Endoscopic Ultrasound-Guided Perirectal Abscess Drainage without Drainage Catheter: A Case Series[J]. Clinical Endoscopy, 2017, 50(3): 297-300

[10] Dunn K, Pasternak B, Kelsen J R, et al. Mevalonate kinase deficiency presenting as recurrent rectal abscesses and perianal fistulae [J]. Ann Allergy Asthma Immunol, 2017, 120(2): 214-215

[11] Mastragostino P, Lee A D, Battaglia P J. Perianal abscess mimicking levator ani syndrome: a case report and approach to the differential diagnosis of anorectal pain [J]. J Can Chiropr Assoc, 2017, 61(2): 145-152

[12] Naldan M E, Ari M A, Guvendi B, et al. An infected primary extrapelvic hydatid cyst presenting as perianal abscess [J]. Surgery, 2017, 162(4): 961-962

[13] Gong Z, Han M, Wu Y, et al. Treatment of First-Time Perianal Abscess in Childhood, Balance Recurrence and Fistula Formation Rate with Medical Intervention [J]. European Journal of Pediatric Surgery, 2017, 28(4): 373-377

[14] Maconi G, Greco M T, Asthana A K. Transperineal Ultrasound for Perianal Fistulas and Abscesses - A Systematic Review and Meta-Analysis[J]. Ultraschall in Der Medizin, 2017, 38(3): 265-272

[15] Shen B. Exploring endoscopic therapy for the treatment of Crohn's disease-related fistula and abscess [J]. Gastrointestinal Endoscopy, 2017, 85(6): 1133-1143

[16] Jamshidi R. Anorectal Complaints: Hemorrhoids, Fissures, Abscesses, Fistulae[J]. Clinics in Colon & Rectal Surgery, 2018, 31(2): 117-120

[17] Aguileracastro L, Ferrearacil C, Garciagarciadeparedes A, et al. Management of complex perianal Crohn's disease[J]. Annals of Gastroenterology Quarterly Publication of the Hellenic Society of Gastroenterology, 2017, 30(1): 33-44

[18] Salfity H V, Valsangkar N, Schultz M, et al. Minimally Invasive Incision and Drainage Technique in the Treatment of Simple Subcutaneous Abscess in Adults[J]. American Surgeon, 2017, 83(7): 699-703

[19] Matsumoto T, Nakanishi M, Miyamae M, et al. A case of locally advanced rectal cancer with abscess and rectovesical fistula curatively resected following preoperative chemotherapy[J]. Gan to Kagaku Ryoho, 2017, 44(12): 1482-1484

[20] Deng J L, Chen L, Shou Q Y, et al. Protective effect of Yiqi Huoxue decoction on kidney in diabetic GK rats [J]. China journal of Chinese materia medica, 2018, 43(11): 2372-2377

[21] Lu Z, Zheng C, Min J, et al. Effect of Yiqi Huoxue Decoction on the Metabolomics of Acute Myocardial Infarction Rats[J]. Journal of Traditional Chinese Medical Sciences, 2017, 4(2): 195-206

[22] Sun D, Yan Q, Xu X, et al. LC-MS/MS analysis and evaluation of the anti-inflammatory activity of components from BushenHuoxue decoction[J]. Pharmaceutical Biology, 2017, 55(1): 937-945

[23] Wu T T, Lu J, Zheng P Q, et al. Yiqi Huayu Jiedu Decoction Inhibits the Invasion and Metastasis of Gastric Cancer Cells through TGF-β/Smad Pathway[J]. Evidence-Based Complementray and Alternative Medicine, 2017, 2017(19): 1-8

[24] Fukui T, Kawaguchi A T, Takekoshi S, et al. Liposome-Encapsulated Hemoglobin Accelerates Skin Wound Healing in Diabetic dB/dB Mice[J]. Artificial Organs, 2017, 41(4): 319-326

[25] Ren Z, Li S, Sheng L, et al. Topical use of tranexamic acid can effectively decrease hidden blood loss during posterior lumbar spinal fusion surgery: A retrospective study[J]. Medicine, 2017, 96(42): e8233

[26] Cerezo A B, Hornedo-Ortega R, Álvarez-Fernández MA, et al. Inhibition of VEGF-Induced VEGFR-2 Activation and HUVEC Migration by Melatonin and Other Bioactive Indolic Compounds [J]. Nutrients, 2017, 9(3): 249-265

[27] Farshadnia M, Cheema M A M, Pouramin A, et al. Design of Optimal Winding Configurations for Symmetrical Multiphase Concentrated-Wound Surface-Mount PMSMs to Achieve Maximum Torque Density under Current Harmonic Injection [J]. IEEE Transactions on Industrial Electronics, 2018, 65(2): 1751-1758

[28] Almalki S G, Agrawal D K. ERK signaling is required for VEGF-A/VEGFR2-induced differentiation of porcine adipose-derived mesenchymal stem cells into endothelial cells[J]. Stem Cell Research & Therapy, 2017, 8(1): 113-128

[29] Liu L, Qin S, Zheng Y, et al. Molecular targeting of VEGF/VEGFR signaling by the anti-VEGF monoclonal antibody BD0801 inhibits the growth and induces apoptosis of human hepatocellular carcinoma cells in vitro and in vivo [J]. Cancer Biology & Therapy, 2017, 18(3): 166-176

[30] Hu J M, Liu K, Liu J H, et al. The increased number of tumor-associated macrophage is associated with overexpression of VEGF-C, plays an important role in Kazakh ESCC invasion and metastasis[J]. Experimental & Molecular Pathology, 2017, 102(1): 15-21

[31] Zheng H, Zhao L, Zhigang W U. Analysis of Bacteria and Histology Difference of Jiedu Huoxue Decoction on Wound Secretion for Patients with Wound Healing[J]. Journal of Sichuan of Traditional Chinese Medicine, 2018, 36(4): 72-75