

doi: 10.13241/j.cnki.pmb.2017.08.034

# 活血止痛熏洗剂联合功能康复训练对踝关节骨折术后功能恢复及生活质量的影响

丁 勇 刘世伟 张彤正 张 焰 周 欣

(西南医科大学附属自贡医院 / 自贡市第四人民医院骨科 四川 自贡 643000)

**摘要目的:**探讨活血止痛熏洗剂联合功能康复训练对踝关节骨折术后功能恢复及生活质量的影响。**方法:**将 150 例踝关节骨折患者,按照随机数字表格法分为观察组与对照组,各 75 例。观察组患者于手术后 2 周给予活血止痛熏洗剂联合功能康复训练,对照组手术后单纯给予功能康复。比较两组患者治疗前后功能恢复情况及生活质量变化。**结果:**观察组的有效率为 88.0%,高于对照组的 69.3%,两组比较差异具有统计学意义 ( $X^2=7.786, P<0.05$ )。治疗后,观察组的症候功能积分低于对照组,观察组的 AIMS2-SF 生活质量积分高于对照组,两组比较差异显著 ( $P<0.05$ )。**结论:**活血止痛熏洗剂联合功能康复训练治疗踝关节骨折术后的临床疗效确切,患者症状明显改善,患者生活质量显著提高,临幊上应该推广应用。

**关键词:**活血止痛熏洗剂;功能康复训练;踝关节骨折;功能恢复;生活质量

中图分类号:R683 文献标识码:A 文章编号:1673-6273(2017)08-1534-03

## Effects of Huoxue Zhitong Smoked Lotion Combined with Rehabilitation Training on the Functional Recovery of Ankle Joint Fracture after Operation and the Quality of Life

DING Yong, LIU Shi-wei, ZHANG Tong-zheng, ZHANG Yan, ZHOU Xin

(Department of Orthopedics, The Affiliated Zigong Hospital of Southwest Medical University/Zigong Fourth People's Hospital, Zigong, Sichuan, 643000, China)

**ABSTRACT Objective:** To study the effect of Huoxue Zhitong smoked lotion combined with rehabilitation training on the functional recovery of ankle joint fracture after operation and the quality of life. **Methods:** 150 cases of patients with ankle fractures were divided into observation group and control group with 75 cases in each group according to the random number table method. The patients in the observation group were given Huoxue Zhitong smoked lotion combined with rehabilitation training after 2 weeks of surgery, while the control group only received functional rehabilitation after surgery. The changes of quality of life and the function recovery before and after treatment were compared between the two groups. **Results:** The clinical effective rate of the observation group was 88.0%, higher than the control group (69.3%), the difference was statistically significant between the two groups ( $X^2=5.95, P<0.05$ ). After treatment, the symptom scores of the observation group was significant lower than the control group, the AIMS2-SF quality of life score of the observation group was significantly higher than the control group, with both significant difference ( $P<0.05$ ). **Conclusion:** Huoxue Zhitong smoked lotion combined with rehabilitation training has a significant clinical curative effect after operation in the treatment of ankle joint fracture, which can improve the symptoms of patients, improve the quality of life, that worthy of promotion and application.

**Key words:** Huoxue Zhitong lotion; Rehabilitation training; Ankle fracture; Recovery of function; Quality of life

**Chinese Library Classification(CLC): R683 Document code: A**

**Article ID:** 1673-6273(2017)08-1534-03

### 前言

踝关节骨折属于骨科常见疾病,临幊将其归属为关节内骨折,约占全部骨折的 4%,Lauge-Hansen 分型中 II—III 度属于比较严重的类型,导致骨架不稳定,应及早进行手术,以达到解剖复位的目的,手术后不采用石膏外固定,使患者能够及早进行功能康复锻炼<sup>[1]</sup>。踝关节骨折术后由于患者踝关节疼痛、肿胀较为严重及尽早进行功能康复训练能够有助于促进踝关节的

血液及淋巴系统循环,进一步缓解疼痛、肿胀症状,同时降低深静脉血栓形成的发生率<sup>[2]</sup>。研究显示,活血止痛熏洗联合早期踝关节功能康复训练能够促进踝关节骨折术后患者的康复<sup>[3]</sup>。本次研究旨在探讨活血止痛熏洗剂联合功能康复训练对踝关节骨折术后功能恢复及生活质量的影响,比较患者功能恢复情况及生活质量变化。

### 1 资料与方法

#### 1.1 临床资料

选择 2013 年 01 月 ~2015 年 01 月间在我院接受治疗的踝关节骨折患者 134 例,纳入病例全部符合踝关节骨折诊断标准

作者简介:丁勇(1980-),男,本科,主治医师,从事骨外科方面的研究,E-mail: dingyong2019@sina.com  
(收稿日期:2016-07-15 接受日期:2016-08-13)

<sup>[4]</sup>,且入院前均具有明确的踝关节外伤病史,均表现为单侧、闭合性踝关节骨折,均属于Lauge-Hansen分型中II—III度,临床表现:踝关节出现肿胀,患者感疼痛,功能障碍,触及异常活动或者骨擦音。按照随机数字表格法分为观察组与对照组,各67例,其中观察组中男43例,女24例,年龄24-55岁,平均年龄(37.3±5.3)岁。Lauge-Hansen分型II度40例,III度37例;对照组中男42例,女25例,年龄24-58岁,平均年龄(36.3±5.7)岁。Lauge-Hansen分型II度38例,III度39例。观察组和治疗组患者在年龄性别及分型等方面,均无显著性差异( $P>0.05$ ),两组患者具有可比性。

## 1.2 方法

观察组患者于手术后2周给予活血止痛熏洗剂联合功能康复训练,对照组手术后单纯给予功能康复。具体如下:<sup>①</sup>踝关节功能康复训练:康复训练过程严格按照循序渐进、动静结合以及医患合作的原则,分为3个阶段进行。第一阶段:术后巧2周-4周,采用踩滚木的方法锻炼踝关节背伸、跖屈以及内收、外展功能,每天3次,每次15 min。第二阶段:术后4周-7周,最大限度将患者踝关节背伸、跖屈以及内收、外展,每天3次,每次15 min,踩滚木锻炼,每次25 min。第三阶段:术后7周-10周,单纯功能锻炼,8周后扶拐给予负重功能锻炼。<sup>②</sup>活血止痛熏剂由独活、威灵仙、丹参、当归、鸡血藤、生黄芪、怀牛膝、三七、巴戟天、川芎、细辛、白芥子各10 g、生南星、生没药、生乳香及甘草各5 g等16味中药组成。加水煎煮2次,共得煎液200 mL,30 min/次,每日2次,1个疗程为15 d,共治疗30天。

## 1.3 疗效评价标准

按照卫生部颁布的《中药新药临床研究指导原则》(2002版)拟定评价标准。具体评价标准:<sup>③</sup>治愈:关节可正常活动,关节疼痛等症基本消失,积分减少>95%;<sup>④</sup>显效:关节活动可达正常的80%,疼痛症状明显改善,积分减少70%-95%;<sup>⑤</sup>有效:关节活动有改善,减少不明显,积分减少介于30%-70%;<sup>⑥</sup>无效:关节活动无改善甚至加重,肿胀、疼痛症状无改善甚至加重,积分减少<30%<sup>[5]</sup>。总有效率=(治愈例数+显效例数+有效例数)/总例数×100%。

生活质量采用国际通用的AIMS2-SF评分标准<sup>[6]</sup>:AIMS2-SF评分标准由5个维度组成,总分为104分,具体分为症状、躯体、社会、影响、工作5部分,共计26个条目。评分越高说明患者的生活质量也越高。

## 1.4 统计学方法

数据采用SPSS19.0分析软件进行统计分析,以( $\bar{X} \pm S$ )表示计量资料,计数资料以百分数表示,计量资料采用t检验,计数资料采用 $\chi^2$ 检验,以 $P<0.05$ 为有无统计学意义的检验标准。

## 2 结果

### 2.1 两组患者临床疗效比较

观察组的临床总有效率为88.0%,显著高于对照组69.3%的总有效率,两组比较差异具有统计学意义( $\chi^2=5.95$ , $P<0.05$ )。见表1。

表1 两组患者临床疗效比较

Table 1 Comparison of clinical efficacy between two groups

Groups	n	Cure	Excellent	Effective	Invalid	Effective rate(%)
Control group	75	5	12	35	23	69.3
Observation group	75	15	36	15	9	88.0
$\chi^2$						7.786
P						0.005

### 2.2 两组患者证候积分比较

观察组和对照组患者治疗前证候积分无显著性统计学差

异( $P>0.05$ );治疗后,观察组患者证候积分明显低于对照组,两组比较具有显著性统计学差异( $P<0.05$ )。见表2。

表2 两组患者治疗前后证候积分比较

Table 2 Comparison of syndrome scores between two groups

Groups	n	Before treatment	After treatment	t	P
Control group	75	24.32±4.56	14.27±5.16	12.682	0.000
Observation group	75	24.48±3.89	9.57±4.78	21.023	0.000
$t$		-0.232	5.806		
P		0.408	0.000		

### 2.3 两组患者生活质量评分比较

观察组和对照组患者治疗前AIMS2-SF生活质量评分无显著性统计学差异( $P>0.05$ );治疗后,观察组AIMS2-SF生活质量积分明显高于对照组积分,两组比较有显著性统计学差异

( $t=-22.151$ , $P<0.05$ )。见表3。

## 3 讨论

踝关节骨折术后可出现局部出血、组织水肿渗出等症状,

表3 两组患者治疗前后生活质量评分比较  
Table 3 Comparison of quality of life scores between two groups

Groups	n	Before treatment	After treatment	t	P
Control group	75	60.78± 10.42	73.14± 8.51	-7.983	0.000
Observation group	75	61.21± 9.57	91.02± 6.72	-14.328	0.000
t		-0.264	-22.151		
P		0.396	0.000		

临床表现为膝关节肿胀、僵硬、疼痛、活动障碍等,中医属“骨痹、痹症”的范畴<sup>[7,8]</sup>。早在《素问·长刺节论》就有论述,如“病在骨,不可举,骨髓酸痛,寒气至,名曰骨痹”,意为风寒湿邪致骨节疼痛,,骨髓空虚,使邪气乘隙侵袭。其症状与踝关节骨折术后症状相吻合<sup>[9,10]</sup>。早在《黄帝内经》中就有关于其病因的论述,《素问·痹论》记载“风寒湿三气杂至,合而为痹”。说明风寒湿是踝关节骨折术后的主要病因。《张氏医通》和《类证治裁》均提到:“骨痹,即寒痹、痛痹也”。充分说明以前与现在的对骨痹、痹症的认识具有一致性<sup>[11,12]</sup>。

本研究观察组采用活血止痛熏洗中药结合功能康复训练疗效优于对照组。熏洗方剂中独活和威灵仙可舒筋活络,气血运行舒畅,起到改善症状的作用;丹参、当归、鸡血藤、三七和川芎等中药具有养血活血功效,可通过调节血运功能,起到改善病变部位的血液运行;巴戟天和细辛具有温阳散寒功效,不仅有助于缓解筋络挛急等临床症状,也可改善血液的运行;加上益气之黄芪,有助于血液生成,气血运行通畅,则湿可化、寒可散;生南星、白芥子在方中起到化痰祛湿的作用,生乳香和没药则有活血行气、消肿止痛的作用;怀牛膝在方中可“引药下行”为治膝关节病之要药,加以调和诸药的甘草,不仅可以祛风寒湿,还具有疏通筋络、调和气血的功效<sup>[13,14]</sup>。活血止痛熏洗方可标本兼治,以治本为主,临床疗效较好。本研究活血止痛熏洗剂联合功能康复训练治疗踝关节骨折术后临床有效率为89.6%,高于对照组71.4%的有效率,治疗后,观察组的症候功能积分低于对照组积分,观察组的AIMS2-SF生活质量积分高于对照组积分,两组比较差异具有统计学意义( $P<0.05$ )。中药熏洗时药力与热力能有机结合,可加速药物在皮肤的扩散和吸收,进一步促进患者踝部的血液循环及淋巴循环,有效缓解肌肉痉挛,最终达到活血化瘀、消肿止痛的作用<sup>[15,16]</sup>。

治疗后,观察组生活质量积分高于对照组,两组比较具有显著性差异( $t=9.56, P<0.05$ )。患者踝关节症状的改善很大程度上提高了患者的生活质量,患者躯体、症状、影响、社会、工作等各方面都有所改善<sup>[17,18]</sup>。可见活血止痛熏洗剂联合功能康复训练优势明显,活血止痛熏洗剂在治疗中作用明显,不仅提高治疗有效率,也可提高患者的治愈率和显效率,提高术后患者的生活质量,改善关节活动度,临幊上应该推广应用<sup>[19,20]</sup>。

综上所述,活血止痛熏洗剂联合功能康复训练治疗踝关节骨折术后的临床疗效确切,患者症状明显改善,患者生活质量显著提高,临幊上应该推广应用。

#### 参考文献(References)

[1] 刘勇,马杰,李晓林,等.28例踝关节旋前外旋型III~IV度骨折的手术

- 疗效[J].宁夏医科大学学报,2015,37(11): 1351-1353
- Liu Yong, Ma Jie, Li Xiao-lin, et al. Operative effect of 28 cases of ankle fractures with degree III ~ IV pronation-external rotation [J]. Journal of Ningxia Medical University, 2015, 37(11): 1351-1353
- [2] Ortiz CA, Wagner P, Wagner E. State-of-the-Art in Ankle Fracture Management in Chile[J]. Foot Ankle Clin, 2016, 21(2): 367-389
- [3] Braunstein M, Baumbach SF, Regauer M, et al. The value of arthroscopy in the treatment of complex ankle fractures- a protocol of a randomised controlled trial [J]. BMC Musculoskelet Disord, 2016, 17(1): 210
- [4] Zhan Y, Yan X, Xia R, et al. Anterior-inferior tibiofibular ligament anatomical repair and augmentation versus trans-syndesmosis screw fixation for the syndesmotic instability in external-rotation type ankle fracture with posterior malleolus involvement:A prospective and comparative study[J]. Injury, 2016, 47(7): 1574-1580
- [5] Angthong C. Ankle fracture configuration following treatment with and without arthroscopic-assisted reduction and fixation [J]. World J Orthop, 2016, 7(4): 258-264
- [6] Robinson PG. Choosing a measure of Health Related Quality of Life [J]. Community Dent Health, 2016, 33(2): 107-115
- [7] Smeets B, Hoekstra H. Fibular Nailing Seems an Effective Strategy to Decrease Treatment Crude Costs for AO-Type 44B Ankle Fractures in Elderly Patients[J]. J Foot Ankle Surg, 2016, 55(3): 684-685
- [8] Friesgaard KD, Gromov K, Knudsen LF, et al. Persistent pain is common 1 year after ankle and wrist fracture surgery: a register-based questionnaire study[J]. Br J Anaesth, 2016, 116(5): 655-661
- [9] Dodd AC, Lakomkin N, Attum B, et al. Predictors of Adverse Events for Ankle Fractures: An Analysis of 6800 Patients [J]. J Foot Ankle Surg, 2016, 55(4): 762-766
- [10] Daniels CJ, Welk AB, Enix DE. Diagnostic Ultrasonography of an Ankle Fracture Undetectable by Conventional Radiography: A Case Report[J]. J Chiropr Med, 2016, 15(1): 35-41
- [11] Dehghan N, McKee MD, Jenkinson RJ, et al. Early Weightbearing and Range of Motion Versus Non-Weightbearing and Immobilization After Open Reduction and Internal Fixation of Unstable Ankle Fractures: A Randomized Controlled Trial[J]. J Orthop Trauma, 2016, 30(7): 345-352
- [12] Gauthé R, Desseaux A, Rony L, et al. Ankle fractures in the elderly: Treatment and results in 477 patients[J]. Orthop Traumatol Surg Res, 2016, 102(S4): S241-244
- [13] Stensrud S. A supervised exercise program may not add any benefit over advice for patients recovering from ankle fracture [commentary] [J]. J Physiother, 2016, 62(2): 114

(下转第 1557 页)

## 参考文献(References)

- [1] Wang J, Liu X, Zhu T, et al. Analysis of neonatal respiratory distress syndrome among different gestational segments [J]. Int J Clin Exp Med, 2015, 15, 8(9): 16273-16279
- [2] Laban M, Mansour GM, Elsafy MS, et al. Prediction of neonatal respiratory distress syndrome in term pregnancies by assessment of fetal lung volume and pulmonary artery resistance index [J]. Int J Gynaecol Obstet, 2015, 128(3): 246-250
- [3] Guan Y, Li S, Luo G, et al. The role of doppler waveforms in the fetal main pulmonary artery in the prediction of neonatal respiratory distress syndrome[J]. J Clin Ultrasound, 2015, 43(6): 375-383
- [4] Kan Q, Ding S, Yang Y, et al. Expression profile of plasma microRNAs in premature infants with respiratory distress syndrome [J]. Mol Med Rep, 2015, 12(2): 2858-2864
- [5] Moety GA, Gaafar HM, El Rifai NM. Can fetal pulmonary artery Doppler indices predict neonatal respiratory distress syndrome? [J]. J Perinatol, 2015, 35(12): 1015-1019
- [6] Sakonidou S, Dhaliwal J. The management of neonatal respiratory distress syndrome in preterm infants (European Consensus Guidelines--2013 update)[J]. Arch Dis Child Educ Pract Ed, 2015, 100(5): 257-259
- [7] Satar M, Taşkin E, Özlü F, et al. Polymorphism of the angiotensin-converting enzyme gene and angiotensin-converting enzyme activity in transient tachypnea of neonate and respiratory distress syndrome [J]. J Matern Fetal Neonatal Med, 2012, 25(9): 1712-1715
- [8] Quasney MW, López-Fernández YM, Santschi M, et al. The outcomes of children with pediatric acute respiratory distress syndrome: proceedings from the Pediatric Acute Lung Injury Consensus Conference [J]. Pediatr Crit Care Med, 2015, 16 (5 Suppl 1):S118-S131
- [9] Parkash A, Haider N, Khoso ZA, et al. Frequency, causes and outcome of neonates with respiratory distress admitted to Neonatal Intensive Care Unit, National Institute of Child Health, Karachi [J]. J Pak Med Assoc, 2015, 65(7): 771-775
- [10] Shen W, Du J, Wang B, et al. Analysis of nitric oxide synthase gene polymorphisms in neonatal respiratory distress syndrome among the Chinese Han population[J]. Ital J Pediatr, 2014, 40(1): 27
- [11] Alkan S, Ozer EA, İlhan O, et al. Surfactant treatment for neonatal respiratory disorders other than respiratory distress syndrome [J]. J Matern Fetal Neonatal Med, 2015, 28(2): 131-133
- [12] Kim SM, Park JS, Norwitz ER, et al. Acceleration time-to-ejection time ratio in fetal pulmonary artery predicts the development of neonatal respiratory distress syndrome: a prospective cohort study[J]. Am J Perinatol, 2013, 30(10): 805-812
- [13] Ferrando C, Aguilar G, Piqueras L, et al. Sevoflurane, but not propofol, reduces the lung inflammatory response and improves oxygenation in an acute respiratory distress syndrome model: a randomised laboratory study[J]. Eur J Anaesthesiol, 2013, 30(8): 455-463
- [14] Tanizawa K, Handa T, Naga S, et al. CD24 gene exon 2 dimorphism does not affect disease susceptibility in Japanese sarcoidosis patients [J]. Sarcoidosis Vasc Diffuse Lung Dis, 2010, 27(1): 64-69
- [15] Ghuwalewala S, Ghatak D, Das P, et al. CD44 (high)CD24 (low) molecular signature determines the Cancer Stem Cell and EMT phenotype in Oral Squamous Cell Carcinoma [J]. Stem Cell Res, 2016, 16(2): 405-417
- [16] Barreira ER, Munoz GO, Cavalheiro PO, et al. Epidemiology and outcomes of acute respiratory distress syndrome in children according to the Berlin definition: a multicenter prospective study [J]. Crit Care Med, 2015, 43(5): 947-953
- [17] Sapru A, Flori H, Quasney MW, et al. Pathobiology of acute respiratory distress syndrome [J]. Pediatr Crit Care Med, 2015, 16 (5 Suppl 1): S6-S22
- [18] Rotta AT, Piva JP, Andreolio C, et al. Progress and perspectives in pediatric acute respiratory distress syndrome [J]. Rev Bras Ter Intensiva, 2015, 27(3): 266-273
- [19] Kor DJ, Warner DO, Carter RE, et al. Extravascular lung water and pulmonary vascular permeability index as markers predictive of postoperative acute respiratory distress syndrome: a prospective cohort investigation[J]. Crit Care Med, 2015, 43(3): 665-673
- [20] Walter JM, Wilson J, Ware LB. Biomarkers in acute respiratory distress syndrome: from pathobiology to improving patient care [J]. Expert Rev Respir Med, 2014, 8(5): 573-586

(上接第 1536 页)

- [14] Grotle M, Hagen KB. A supervised exercise program may not add any benefit over advice for patients recovering from ankle fracture? [synopsis][J]. J Physiother, 2016, 62(2): 114
- [15] Smeets B, Nijs S, Nderlita M, et al. Health Care Usage and Related Costs in Fibular Plating for AO Type 44-B Ankle Fractures in a Belgian University Hospital: An Exploratory Analysis[J]. J Foot Ankle Surg, 2016, 55(3): 335-341
- [16] Regan DK, Gould S, Manoli A, et al. Outcomes Over a Decade After Surgery for Unstable Ankle Fracture: Functional Recovery Seen 1 Year Postoperatively Does Not Decay With Time [J]. J Orthop Trauma, 2016, 30(7): e236-241
- [17] Gorbachova T, Wang PS, Hu B, et al. Plantar talar head contusions

and osteochondral fractures: associated findings on ankle MRI and proposed mechanism of injury [J]. Skeletal Radiol, 2016, 45 (6): 795-803

- [18] Beckenkamp PR, Lin CW, Engelen L, et al. Reduced Physical Activity in People Following Ankle Fractures: A Longitudinal Study [J]. J Orthop Sports Phys Ther, 2016, 46(4): 235-242
- [19] Tomé-Bermejo F, Santacruz Arévalo A, Ruiz Micó N. Open reduction and internal fixation of displaced ankle fractures in patients older than 65 years of age. Analysis of results at five-year follow-up [J]. Rev Esp Cir Ortop Traumatol, 2016, 60(2): 99-105
- [20] Gill PJ, Klassen T. Revisiting Radiograph-Negative Ankle Injuries in Children: Is It a Fracture or a Sprain[J]. JAMA Pediatr, 2016, 170(1): e154147