

doi: 10.13241/j.cnki.pmb.2015.19.036

负压封闭引流治疗厌氧菌感染创面的临床观察 *

付慧明 林丽丽 李红霞 麻丽娟 方 伟

(哈尔滨医科大学附属第四医院外科 黑龙江 哈尔滨 150001)

摘要 目的:观察负压封闭引流联合双氧水冲洗治疗厌氧菌感染创面的临床治疗效果。**方法:**收集我院收治的创面厌氧菌感染患者 60 例,随机分为两组。其中,对照组(30 例)患者采用常规换药治疗创面厌氧菌感染,VSD 组(30 例)患者给予负压封闭引流并辅以双氧水冲洗治疗。观察并比较两组患者厌氧菌清除率,以及创面愈合情况。**结果:**VSD 组创面厌氧菌感染率明显低于对照组,创面愈合效果优于对照组,差异有统计学意义($P < 0.01$)。**结论:**负压封闭引流不仅能够有效控制感染创面厌氧菌生长,而且可以有效促进创面愈合,对临床具有指导意义。

关键词:负压封闭;厌氧菌;创面愈合;感染

中图分类号:R605 **文献标识码:**A **文章编号:**1673-6273(2015)19-3734-02

Clinical Effects of Vacuum Sealing Drainage on the Wound Healing of Anaerobic Infections*

FU Hui-ming, LIN Li-li, LI Hong-xia, MA Li-juan, FANG Wei

(Department of Surgery, the Fourth Affiliated Hospital of Harbin Medical University, Harbin, Heilongjiang, 150001, China)

ABSTRACT Objective: To observe the clinical effects of VSD combined hydrogen peroxide rinse on the treatment of anaerobic infections wounds. **Methods:** 60 patients with anaerobic infections who were treated in our hospital were selected and randomly divided into two groups. The patients in the control group were treated with the conventional method, while the patients in the VSD group were treated with VSD and supplemented hydrogen peroxide rinse. Then the detection rate of anaerobic bacteria and the clinical effects of patients in the two groups were observed and compared. **Results:** The detection rate of anaerobic infection in the VSD group was significantly lower than that of the control group, while the clinical effects in the VSD group was better than that of the control group with statistically significant differences between the two groups ($P < 0.01$). **Conclusion:** VSD can reduce the growth of anaerobic infection and improve the wound healing, which is worthy of clinical promotion.

Key words: Vacuum sealing; Anaerobes; Wound healing; Infection

Chinese Library Classification(CLC): R605 **Document code:** A

Article ID: 1673-6273(2015)19-3734-02

前言

厌氧菌是正常菌群的主要组成部分,它可以引起人体任何组织和器官的感染。近年来随着培养技术的不断改进,厌氧菌得以及时分离和鉴定,厌氧菌感染(anaerobic infection)的报道渐见增多,厌氧菌在细菌感染性疾病中的重要地位已日益受到临床工作者的重视^[1]。负压创面治疗技术是近年来发展起来的用于治疗创面的一项新技术,是一种高效、简单、经济,促进创面愈合的纯物理疗法。它利用生物半透膜使开放创面封闭,使用专用负压机产生一定的负压,通过引流管和敷料作用于清创后的创面^[2]。目前研究证明,该疗法能够加速创面部位的血液循环,显著促进新生血管进入创面,刺激肉芽组织的生长,充分引流,减轻水肿,减少污染,抑制细菌生长,能够直接加快创面愈合,或为手术修复创造条件^[3-6]。越来越多的外科领域应用负压创面技术,并取得了良好的效果^[5-6]。本实验通过负压封闭引流联合双氧水冲洗治疗厌氧菌感染创面进行临床观察,为临床提供参考。

1 资料与方法

1.1 临床资料

2011 年 6 月至 2014 年 6 月我院骨科收治的 60 例软组织缺损合并厌氧菌感染患者,其中男性 38 例,女 22 例;年龄 25-83 岁,年龄中位数 54 岁。致伤感染原因:车祸伤 28 例,机械绞轧伤 17 例,骶尾部褥疮 15 例。软组织损伤部位:上肢 29 例,其中 1 例为坏死性筋膜炎,余为皮肤软组织缺损;下肢 31 例,其中 15 例骶尾部褥疮,9 例胫腓骨粉碎性骨折外露,7 例为肌腱、血管和神经外露。创面范围为 3 cm×4 cm-9 cm×15 cm。受伤至手术时间 3 小时至 30 天,创面细菌培养均存在厌氧菌感染。

1.2 方法

对科室创伤、术后,褥疮等具有创面患者行创面均培养,收集筛选创面厌氧菌感染患者 60 例,将厌氧菌感染患者分为两组:I 组 30 例为对照组,为同期收治创面厌氧菌感染后换药治疗患者。II 组 30 例为负压吸引组(VSD 组),本组患者为厌氧菌感染创面给予负压封闭引流并辅以双氧水冲洗,2 次/日。观察负压封闭引流处置厌氧菌感染创面的临床效果。治疗后第 7 天采集实验组及对照组患者创面少许分泌物或肉芽组织,厌氧环境下进行培养,并观察两组创面厌氧菌生长情况及创面愈合情况。检出率计算公式:厌氧菌检出率=(创面压氧菌检出例数

* 基金项目:黑龙江省卫生厅资助项目(2012-702)

作者简介:付慧明,女,主管护师,主要研究方向:外科护理

(收稿日期:2014-12-30 接受日期:2015-01-22)

/创面总例数)×100%

1.3 统计学方法

应用 SPSS 16.0 软件,创面厌氧菌检出率用百分率表示,计量资料的比较采用 t 检验分析,率的比较采用 χ^2 检验分析,以 $P < 0.05$ 代表差异显著,具有统计学差异。

2 结果

2.1 两组创面愈合情况比较

负压组创面缩小,部分结痂,肉芽组织新鲜红润,无水肿。常规组创面略缩小,创面组织外露,呈黄白色,创缘水肿外翻,伴有少量分泌物。

2.2 两组创面厌氧菌检出情况比较

负压组厌氧菌检出率明显低于对照组,差异显著具有统计学意义($P < 0.05$),见表 1。

表 1 两组患者创面厌氧菌检出率比较(%)

Table 1 Comparison of detection rate of anaerobes between two groups

Group	Case	Detection rate of anaerobes (%)
VSD group	30	2(6.67%)
Control group	30	14(46.67%)*

Note: compared with control group, * $P < 0.05$.

3 讨论

创面合并厌氧菌感染通常存在较大较深创腔,采用常规的换药及护理措施,不但工作量巨大,而且不易控制感染,早期使用负压引流技术科作为此类疾病的常规治疗方法^[7]。尽管如今抗生素的抗菌谱越来越宽泛而且有效^[8],但是却永远无法替代外科引流技术,负压封闭引流作为最有效的外科引流手术,是一种全方位深层次的引流^[9]。

负压封闭引流比传统换药护理更加安全有效^[10],其不但能将深层次创腔的感染坏死物引出,而且有专家指出,它能够缩小填塞于创腔深部的有机泡沫材料,通过负压引流来有效闭合深部创面,而且还能够有效控制创面感染^[11-14],使创面内的细菌菌落数明显减少^[15]。负压封闭引流技术大大减轻了医务工作者的工作量,而且使整个治疗过程缩短,患者住院时间明显减少^[16]。从另一个层面来说,感染创面早期清创后,使用负压封闭引流,通过深部创腔泡沫填塞以及持续的负压吸引,将深部创腔分泌物及时有效吸出,避免了细菌在创腔深部的繁殖及浸润,同时引流分泌物至体外,保持创面清洁,组织学研究表明^[17-19],负压引流可以改善局部创面微循环,负压封闭引流的创面淋巴细胞浸润消退较快,创面局部炎症反应及组织水肿更轻微^[20]。综上所述,负压封闭引流技术为临床上创面感染特别是厌氧菌感染患者提供了一个切实有效的治疗手段,它安全有效,为临床工作者治疗局部厌氧菌感染创面提供了一个强有力的武器。

参考文献(References)

- [1] Koehler C, Niederbichler AD, Jung FJ, et al. Wound therapy using the vacuum-assisted closure device:clinical experience with novel indications[J]. J Trauma, 2008, 65(3): 722-731
- [2] Witkowski W, Jawien A, Witkiewicz W, et al. Initial multi-centre observations upon the effect of a new Topical Negative Pressure device upon patient and clinician experience and the treatment of wounds [J]. Int Wound J, 2009, 6(2): 16-21
- [3] Weed T, Ratliff C, Drake DB, et al. Quantifying bacterial bioburden

during negative pressure wound therapy:does the wound VAC enhance bacterial clearance[J]. Ann Plast Surg, 2004, 52(3): 276-280

- [4] Shih YJ, Chang SC, Wang CH, et al. A simple protocol for the management of deep sternal surgical site infection: a retrospective study of twenty-five cases [J]. Surg Infect (Larchmt), 2014, 15(6): 815-820
- [5] Delli V, Bertheuil N, Harnois Y, et al. Multiple bowel perforation and necrotising fasciitis secondary to abdominal liposuction in a patient with bilateral lumbar hernia[J]. J Plast Surg, 2014, 47(3): 436-440
- [6] Shah A. Timer switch to convert suction apparatus for negative pressure wound therapy application [J]. Indian J Plast Surg, 2014, 47(3): 417
- [7] Xie X, McGregor M, Dendukuri N. The clinical effectiveness of negative pressure wound therapy: a systematic review [J]. Wound Care, 2010, 19(11): 90-95
- [8] Borgquist O, Ingemansson R, Malmström M. The influence of low and high pressure levels during negative-pressure wound therapy on wound contraction and fluid evacuation[J]. Plast Reconstr Surg, 2011, 127(2): 551-559
- [9] Derrick KL, Lessing MC. Genomic and proteomic evaluation of tissue quality of porcine wounds treated with negative pressure wound therapy in continuous, noncontinuous, and instillation modes [J]. Eplasty, 2014, 4(14): e43
- [10] Isc E, Canter HI, Dadac M, et al. The efficacy of negative pressure wound therapy on chemotherapeutic extravasation ulcers: An experimental study[J]. Indian J Plast Surg, 2014, 47(3): 394-400
- [11] Zhang F, Lv KY, Qiu XC, et al. Using negative pressure wound therapy on microskin autograft wounds [J]. J Surg Res, 2014, 18. [Epub ahead of print]
- [12] Karaaslan F, Erdem, Mermerkaya MU. Wound management with vacuum-assisted closure in postoperative infections after surgery for spinal stenosis[J]. Int Med Case Rep J, 2014, 22(8): 7-11
- [13] Bi H, Fang S, Jiang D, et al. Ultrasound-guided scraping of fibrous capsule plus bilayered negative pressure wound therapy for treatment of refractory postmastectomy seroma [J]. J Plast Reconstr Aesthet Surg, 2014, 20
- [14] Amarnath S, Reddy MR, Rao CH, et al. Timer switch to convert suction apparatus for negative pressure wound therapy application[J]. Indian J Plast Surg, 2014, 47(3): 412-417
- [15] Dumville JC, Munson C, Christie J. Negative pressure wound therapy for partial-thickness burns [J]. Cochrane Database Syst Rev, 2014, 15(12): CD006215
- [16] Yoon BW, Yi KI, Kang JH, et al. Negative pressure wound therapy for cervical esophageal perforation with abscess [J]. Auris Nasus Larynx, 2014, 12
- [17] Kozendorfer H, Hettrick H. Biophysical Technologies for Management of Wound Bioburden [J]. Adv Wound Care (New Rochelle), 2014, 3(12): 733-741
- [18] Riot S, de Bonnecaze G, Garrido I, et al. Is the use of negative pressure wound therapy for a malignant wound legitimate in a palliative context? "The concept of NPWT ad vitam": A case series [J]. Palliat Med, 2014, 18
- [19] Leiboff AR. Vertically drained closed incision NPWT. A novel method for managing surgical incisions: a case series [J]. J Wound Care, 2014, 23(12): 623-629
- [20] Mody GN, Zurovcik DR, Joharifard S, et al. Biomechanical and Safety Testing of aSimplified Negative Pressure Wound Therapy Device[J]. Plast Reconstr Surg, 2014, 12