

止血生肌膏外敷治疗指、趾端损伤的实验研究

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摘要 采用离断法造成家兔趾开放损伤。分止血生肌膏组, 烧伤宁组, 对照组进行实验观察。结果表明: 止血生肌膏有较好的止血作用。能显著地缩小创面 ($P < 0.01$)。用药第一周显著特点为间质中中性白细胞浸润较多, 第二、三周显著特点为肉芽组织增生明显伴表皮组织增生, 第三、四周显著特点为上皮组织高度增生且完善。经急性毒性试验及急性皮肤过敏试验证实无毒性作用, 无不良反应。

关键词 止血生肌膏 指(趾)损伤

采用止血生肌膏外敷治疗指、趾端损伤疗效显著^[1], 为研究其对指、趾端损伤促进组织修复的作用和机理, 我们进行了实验研究, 现报告如下。

材料和方法

1. 病理实验: 采用雌雄兼用家兔 36 只、72 肢(重约 2.5~3kg), 烧伤宁(磺胺嘧啶银)为沈阳市红旗制药厂生产的外用膏剂(辽卫药准字 820421-17 号), 止血生肌膏为本院制剂室提供。造模方法: 选择家兔两上肢, 在 2~4 趾平行于第一趾骨末节趾骨的部位作好标记, 局部去毛, 将全身及前肢固定, 在无菌条件下, 将四趾用锋利的组织剪刀剪去造成离断伤。然后分为三组: 止血生肌膏组、烧伤宁组、对照组各 24 肢。造模后对照组不用药仅用纱布包扎, 其余二组分别外敷止血生肌膏及烧伤宁包扎处理。除部分纱布脱落重新换药外, 均每周换药一次。自造模后第 1 天内肉眼观察止血情况, 然后分别在第 1、2、3、4 周随机各组各取 3 只家兔, 首先肉眼观察创面修复情况, 然后处死家兔, 将距创面 0.5cm 处整个取下, 以制病理切片用。

2. 安全性试验: 取 NIH 种小白鼠(体重 18~22g) 30 只, 雌雄兼备, 分别灌胃给药 1cm (约相当于人体常规剂量的 300 倍), 观察 72 小时进行急性毒性试验。并进行急性皮肤过敏试验(斑贴试验), 家兔 6 只

(体重 2.5~3kg), 准备皮肤, 在背部两侧预先脱毛, 分一侧为试验区, 一侧为自身对照区。将止血生肌膏 0.5g 均匀地涂在 6.5cm² 纱布上, 将纱布贴于背部脱毛处固定 24 小时, 观察反应, 72 小时后第二次观察反应, 每次按以下内容记分: (1) 红斑和焦痂形成: 无红斑 0 分; 很轻的红斑(仅能觉察) 1 分; 明显红斑 2 分; 中等到严重红斑 3 分; 严重红斑(甜菜色)至轻度焦痂(损伤的深度) 4 分。(2) 水肿: 无水肿 0 分; 非常轻的水肿(仅能觉察出来) 1 分; 轻度水肿(突起的边缘) 2 分; 中等水肿(边缘高出约 1cm) 3 分; 严重水肿(边缘突起大于 1cm) 4 分。

将红斑和水肿分数相加, 计算每一动物的平均数, 若指数 < 2 为轻度刺激, 2.5 为中度, > 6 为重度。

结果

1. 止血情况: 将各组包扎的实验动物患肢于造模后第一天打开, 见止血生肌膏组有血凝块无出血, 烧伤宁组表面有黑色痂皮、痂皮下少量出血, 对照组有不同程度出血。

2. 创面愈合情况: 用药前分别测量各家兔患肢创面的直径, 敷药后于 1、2、3、4 周分别测量创面, 以给药前后家兔患肢的创面之差作为愈合程度, 结果见表 1。

表 1 外敷不同药物创面愈合程度 ($\bar{X} \pm Se$)

组别	实验数(肢)	1周	2周	3周	4周
对照组	6	0.05 ± 0.089	0.52 ± 0.539	0.88 ± 0.88	1.37 ± 1.244
烧伤宁组	6	0.04 ± 0.001*	0.18 ± 0.102*	1.07 ± 0.970*	1.63 ± 1.490*
止血生肌膏组	6	0.22 ± 0.196*	1.08 ± 0.196*	1.55 ± 1.406*	1.77 ± 1.601*

* $P < 0.01$ (与对照组比较)。

经统计学处理表明: 止血生肌膏组能显著地缩小创面, 与对照组比较有显著差异, 与烧伤宁比较第 1 周

无明显差异，而 2、3、4 周均有显著差异。

3. 病理切片结果：止血生肌膏组第 1、2 周以肉芽组织增生及中性白细胞浸润为主，同时伴有表皮组织增生。在 3、4 周以肉芽组织机化、纤维母细胞增多为主，表皮组织修复至愈合。烧伤宁组在 1、2 周亦出现止血生肌膏组的病理变化，但可见坏死组织的存在。3、4 周肉芽组织开始机化，但表皮修复程度不及止血生肌膏组，同时还伴有细胞的中性白细胞及淋巴细胞浸润。对照组在 1、2 周以炎症反应为主，同时伴有肉芽组织增生及表皮组织轻度增生，3、4 周表皮组织始有高度增生，同时伴有中性白细胞及淋巴细胞浸润。

4. 急性毒性试验：观察 72 小时，无死亡。

5. 急性皮肤过敏试验（斑贴试验）：本实验 24 小时、72 小时的观察，红斑和焦痂形成水肿的得分均为 0，说明对皮肤无过敏及刺激作用。

讨 论

止血生肌膏由血竭、血余炭、生石膏粉、当归、炉甘石粉、生地、龟板、珍珠粉诸药组成，该方配伍适当。生石膏粉、炉甘石粉有清解的作用，配当归具有镇痛的作用，血竭、血余炭、生地配伍当归为活血生血，龟板、珍珠粉生肌，故具有清热解毒、活血止血、生肌长皮之功效。

从本实验研究看止血生肌膏的作用有以下几个较显著的特点：

1. 应用膏剂覆盖整个创面，使膏剂如血栓堵住了

血管的破裂口，同时膏剂为油脂性基质，药物的吸收率较差，因此药物的释放大部分作用于局部，使止血作用的药物较好发挥作用，进一步使局部血管收缩，促进血液凝固，而止血作用，加上外敷药后纱布加压包扎，故止血生肌膏组止血作用较好。

2. 本实验的病理实验中看到止血生肌膏组第 1 周显著特征为间质中中性白细胞浸润较多，而中性白细胞具有吞噬后依赖细胞内氧基杀灭细菌，同时释放蛋白酶溶解失活组织，有利于防止伤口感染的作用。说明本膏剂作用之一是参与了创面愈合过程中早期局部炎症反应。

3. 通过对第 2、3 周的病理切片及肉眼观察，止血生肌膏在这期间的显著特点是肉芽组织增生明显伴表皮组织增生。创口内的肉芽组织一般认为由内皮细胞和成纤维细胞增殖形成。同时，从第 3、4 周病理及肉眼观察，上皮组织高度增生且完善，故认为该膏剂可促使细胞增殖加速了创口愈合和上皮化的进程，使创面愈合完全。

4. 膏剂经急性毒性试验及急性皮肤过敏试验证实无毒性作用、无不良反应。

参考文献

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线状刀闭式手术治疗弹响指 50 例

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我科 1994 年~1995 年中运用眼科线状刀闭式手术治疗弹响指 50 例，效果满意，报告如下。

临床资料 本组 50 例中男 18 例，女 32 人；年龄 8~58 岁；患指共 53 个，其中拇指 15 个，食指 20 个，中指 10 个，无名指 5 个，小指 3 个；本组患者中均为患病一年以上，经针灸、封闭治疗后无好转而来就诊者。

治疗方法 患者坐位，手掌向上，手置于桌面上。常规皮肤消毒准备，局部浸润麻醉。仔细按摩患处，明确弹响和肿胀部位，用刀尖探得增厚腱鞘的近侧缘，再将刀尖插入腱鞘的深侧，以后渐向上，向远侧挑割开狭窄的腱鞘。切断鞘状韧带时，有明显的横形纤维组织切断的感觉。令患者伸屈手指，如弹响症状完全消失，则

说明手术成功，如仍有弹响，表示挑割不彻底，应重复以上动作，至弹响症状消失为止。术后，压伤口片刻止血，再用敷料加压包扎。

经上述治疗 50 例 53 个患指全部一次性全愈。

体会 行线状刀闭式手术具有创伤小，切口不足 1cm，术后不用缝合，可有效防止一般手术因切口太大而发生手术感染。愈合快，术后 7 天左右即可进行日常生活活动。

手术时，定位一定要准确，深度要适宜，进刀时刀刃一定要直向上(掌面)，切不可将刀刃斜或偏向一侧，以防伤及肌腱动脉或神经造成不良后果。

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Abstract of original Articles

Comparison of the Therapeutic Effects of Different Kinds of Operation for Femoral Neck Fracture

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134 cases of femoral neck fracture were treated with different kinds of operation, i. e. percutaneous fixation with multiple Knowles' pins, fixation with compression screw, percutaneous fixation with multiple knowles' pins combined with uni-lateral axial dynamic fixator, McMurray's osteotomy and artificial femoral neck replacement. The complications and therapeutic effects of different kinds of operation were compared. The results showed that the use of multiple Knowles' pins and unilateral axial dynamic fixator could make a good fixation, allow the early ambulation, accelerate the union, shorten the course of treatment, and also avoid the ankylosis. It might be one of the best methods for treating femoral neck fracture at present.

Key words Femoral neck fracture Operating methods

(Original article on page 3)

Radiographic Measurement of Radiocarpal Ratio and Ulnocarpal Ratio in Normal Hand

Zhu Jianmin, Chen Xingang, Jin Zongda, et al

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Posteroanterior roentgenographs of 200 normal wrists in 100 persons were taken and the radiocarpal ratio and ulnocarpal ratio were calculated from the parameters measured on roentgenographs and the calculating formulae. The results showed that the standard radiocarpal ratio is 0.11 ± 0.024 , the standard ulnocarpal ratio is 0.31 ± 0.038 , the revised radiocarpal ratio is 0.27 ± 0.06 and the revised ulnocarpal ratio is 0.77 ± 0.10 . The relationship between the radiocarpal ratio and the ulnocarpal ratio is the negative correlation ($r = -0.346 \sim -0.418, p < 0.001$) by statistical

analysis.

Key words Wrist Carpal instability Kienbock's disease Data

(Original article on page 5)

Influence of Fracture and Operation on the Level of Immunity in Organism

Xie Yuxin, Li Jiyun, Zhao Zhujun, et al.

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The levels of cellular immunity and humoral immunity in 41 cases with traumatic fracture have been measured at different stages after fracture and operation. The results showed that the level of immunity is significantly higher at the 6th day after fracture than that at the 3rd day after fracture, and it is significantly lower at the 90th minute after operation than that at the 72nd day after operation. So it was concluded that the level of immunity is closely related with traumatic fracture and operation. This study can also provide a scientific basis for the explanation of inflammation and its immunologic prevention.

Key words Cellular immunity Humoral immunity Complement system Traumatic fracture

(Original article on page 8)

Experimental Research on Treatment of wound at Digital End with External Application of Zhixue shengji Ointment

wang Weijia, Yang Mixiong, Xu Linwei, et al.

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Open wounds were made by cutting off the distal ends of rabbits' digits and then divided into three groups, i. e. treating group with zhixue Shengji ointment, or shaoshangning, and the control. The results showed that Zhixue shengji Ointment plays a better role in hemostasis and shrinking the wound surface evidently ($P < 0.01$). During the first week of treatment, more neutrophils have been infiltrated into interstitial tissues; during the second and third weeks, the granular tissue has been proliferating evidently and the epidermis has been regenerating; during the third and fourth

weeks, the epidermis has been highly proliferating and the wounds have been healed completely. Neither toxic effect nor adverse reaction was found by the acute tests of toxicity and skin hypersensitivity.

Key words Zhixue Shengji Ointment Injury of digit
(Original article on page 11)

Effect of the Application of Autogenous Nerve Graft with Vascular Implantation to Repair Nerve Defect

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The defect of sciatic nerve was made in 54 Wistar rats, which were divided randomly into three groups treated with different methods. For investigating the repair of the defected nerves, the tissues were taken out at 60 and 90 days after operation and examined with electrophysiological, histological and electromicroscopical methods. The results showed that the effect of free autogenous nerve graft with vascular implantation is as good as that of pedicle nerve graft and that the effect of both kinds of method are superior obviously to that of simple free nerve graft.

Key words Peripheral nerve Nerve grafting Vascular implantation

(Original article on page 13)

Treatment of Multiple Comminuted Fractures of Tibia and Fibula

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18 patients with multiple comminuted fractures of tibia and fibula had been treated from 1993 to 1995. In this paper, the clinical features and therapeutic methods of this kind of fracture were discussed. It was believed that the combination of internal fixation of fibula fracture with Kirschner's pins, internal fixation of tibial fracture with multiple common steel plates and screws, and external fixation with plaster is an effective method. Its advantages are: ① The operative procedures

are simple and easy; ② The common plates are small, can be placed in suitable positions according to the condition of injury, and are advantageous to the healing of the wound at the shank; ③ The reduction of fractures is good. Its disadvantage is the external fixation with plaster is needed yet. In this group, the good bony union was found in 17 cases and the refracture was happened only in one case due to injury from falling after removing external fixation. So the therapeutic effect is satisfactory.

Key words Tibia Fibula Multiple comminuted fracture Kirschner's pin Common steel plate Screw

(Original article on page 15)

Treatment of Lumbar Spondylolisthesis with RF Plate and Chinese Drugs

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16 cases attacked with lumbar spondylolisthesis, including 7 cases of grade I, 6 cases of II and 3 cases of III, have been treated with RF plate and Chinese drugs since 1992 and followed up for 3 to 32 months. The results showed that, except that no evident improvement in one case and the backward slipping due to over-correction in another case, their symptoms and signs were basically disappeared and the improvement in olisthy over one grade and more was obtained in remaining 14 cases. The implanted bone had fused with the vertebrae in cases over 6 month after operation. No injuries of cauda equina and nerve roots were found in all cases. The writers considered that RF plate has the advantages of the less fixative segments, the satisfactory reduction and the firm internal fixation; and that the combination of RF plate with Chinese drugs is advantageous to the fusion of implanted bone and the diminution of postoperative complications.

Key words FR Plate Lumbar spondylolisthesis Chinese drugs

(Original article on page 21)