DOI: 10.16016/j.1000-5404.1997.05.017

Therapeutic effects of a Chinese herbal preparation on muscle strain and their mechanism in rabbits

Shu Bin, Zhou Jixiang, Wu Zongyao (Department of Physical Medicine and Rehabilitation, Southwest Hospital, Third Military Medical University, Chongqing, 400038)

Abstract Objective: To explore the therapeutic effects of a Chinese herbal preparation consisting of twelve kinds of Chinese herbs such as Flos Carthami and Radix Notoginseng etc. on muscle strains and their mechanism. Methods: 60 rabbits were randomized into the treated group and non-treated group. The other 4 rabbits were employed to serve as the normal control. Two tibialis anterior (TA) muscles of each animal were studied histologically, histochemically and biomechanically on the 0, 1st, 2nd, 3rd and 7th day after strain. Results: On the 1st and 2nd day after strain, few inflammatory cells were seen and they were mainly located in the necrotic muscle fibers at the injured site in the treated group while a large number of them were found at the injured site and its adjacent tissue in the non-treated group. On the 3rd day after strain, the activities of CCO, ATPase, α-GPD, MDH and SDH were significantly higher in the treated group than in the non-treated group ($P < 0.01$ or 0.05). On the 1st, 2nd and 3rd day after strain, the contractile force was remarkably higher in the treated group than in the non-treated group ($P < 0.05$). On the 1st, 2nd day after strain, the ultimate failure load was markedly higher in the treated group than in the non-treated group ($P < 0.05$). Conclusion: This Chinese herbal preparation can not only alleviate the inflammatory raction and prevent the passive strength and contractile force from being decreased but also promote the regeneration of muscle fibers. The reason of which might be that the preparation selectively stimulates the phagocytes and enhance the activity of cellular oxidases.

Key words exercise-induced injury/muscle strain; repair; treatment; Chinese herb; rabbit

经纤维支气管镜双塞保护采样法对肺部厌氧菌感染的调查

An investigation of lung infection due to anaerobic bacteria with fibroptic bronchoscope protecting catheter brush

刘 平* 沈寒放 张蔚东 秦孝建** (第三军医大学附属西南医院呼吸内科) 重庆, 400038

肺部厌氧菌感染,由于痰标本易受口咽部常居菌污染及暴露于空气中,培养结果不可靠或培养不出厌氧菌,临床确诊困难。以往多采用经气管或经皮肺穿刺抽吸标本培养,本研究用经纤支镜双塞保护采样法培养下呼吸道厌氧菌感染的病原菌,以期了解肺部厌氧菌感染率及病原菌分布。

1 对象和方法

1.1 病例选择

感染组48例,男40例,女8例,年龄21~75岁,其中慢支炎21例,急性肺炎11例,支气管扩张6例,急性肺脓疡4例,外伤后气管切开并肺部感染6例。对照组20例,男16例,女4例,年龄34~74岁,系同期收治的肺部局限性包块需行纤支镜检查者,均无肺部感染的临床症状、体征及X线征象。采样前1周除6例气管切开者外均未用过抗生素。

1.2 仪器及采样方法

纤维支气管镜 Olympus BF-T10型;单层保护性导管采样刷为上海医疗器械六厂生产。采样按王家耀等[1]的方法。

1.3 细菌学处理

采样标本放入装有1 ml生理盐水的无菌瓶中密闭,振荡洗涤30 s,立即注入含有99.9%的 CO_2气体的厌氧培养标本瓶中送检,在20 min内进行厌氧菌定量培养。

2 结果

2.1 对照组细菌培养结果

20例厌氧菌培养无菌生长17例(85%),菌量≤ 10^4刷3例(15%),分别为产黑类杆菌、脆弱类杆菌及其他类杆菌。

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* 刘 平,男,40岁,副教授,硕士
** 烧伤研究所细菌室

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Relationship between the secondary paralysis and spinal cord blood flow after spinal cord ischemia in rabbits

Yang Hengwen, Hu Wenhui, Liao Weihong (Research Institute of Field Surgery, Daping Hospital, Third Military Medical University, Chongqing, 400042)

Abstract Objective: To investigate the relationship between the secondary paralysis and spinal cord blood flow after spinal cord ischemia. Methods: After the model of spinal cord ischemia was established in awake rabbits by occluding the infrarenal aorta (IRA), spinal cord blood flow (SCBF) was measured with hydrogen clearance method and the spinal cord function evaluated with Tarlov 6-point ordinal scoring. Results: The motor and sensory function of hindlimbs was lost at the 34th and 55th second respectively after ischemia. 1 to 3 hours after reperfusion following 20-minute IRA occlusion, 87% of the animals regained normal motor function. However, the secondary paralysis of the hindlimbs appeared at the 17th to 26th hour after reperfusion. After ischemia, the distal blood pressure of femoral artery was immediately reduced from the normal level of 11.3(16.6 kPa to less than 2.62 kPa. The level of SCBF in L6 spinal cord was significantly decreased. 15 min after reprefusion following 20 min ischemia, the level was immediately returned to the normal. However, this level was significantly decreased at the 1st, 3rd and 24th hour after reperfusion as compared with the normal. No changes of the level of SCBF in T10 spinal cord was seen. Conclusion: The secondary paralysis after spinal cord ischemia might be associated with delayed reduction of SCBF.

Key words spinal cord; ischemia; blood flow; function; rabbit

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2.2 感染组细菌培养结果

48例厌氧培养有厌氧菌生长35例,共分离出厌氧菌49株,兼性厌氧菌6株,见表1.菌量≥ 10^5/刷52株(94.5%),菌量≤ 10^4/刷3株(5.5%).

表1 48例肺部感染下呼吸道分泌物培养结果

菌名	株数	菌名	株数
厌氧菌	49	消化球菌	2
产黑类杆菌	20	范永氏球菌	1
中间型产黑类杆菌	2	韦荣氏球菌	1
糖不发酵产黑类杆菌	2	Clem toplus eseas	1
脆弱类杆菌	3	兼性厌氧菌	6
其他类杆菌	9	类白喉杆菌	1
可变梭状杆菌	2	丙型链球菌	1
坏死梭状杆菌	2	草绿色链球菌	1
梭状杆菌	2	类链球菌	1
口腔类杆菌	1	奈瑟氏球菌	1
臭鼻克雷白杆菌	1	酵母样菌	1

3 讨论

体外及临床应用已证明双塞保护采样法有良好的防污染效果[1]。本研究结果显示感染组35例有厌氧菌生长,菌量≥ 10^5/刷占94.5%,而对照组仅3例菌量≤ 10^4/刷,说明该法对厌氧菌感染确诊率高,防污染效果好,有实用价值.

从本组分离到的厌氧及兼性厌氧菌看,杆菌占83.6%(46/55),以产黑类杆菌、其他类杆菌及梭状杆菌等常见,与Marina等[2]报道结果相同。

既往研究已证实:健康人、慢性肺部疾病和支气管肿瘤患者下呼吸道无感染时,约20%有低浓度需氧菌存在,但无厌氧菌[3],本组无感染者结果与之相近。John[4]报道社会获得性肺炎厌氧菌感染率为22%~33%,吸入性肺炎和肺脓疡厌氧菌感染率为62%~100%;院内获得性肺炎厌氧菌感染率为35%[5]。药敏显示33%~45%的厌氧菌能够产生β-内酰胺酶[2,6],厌氧的革兰氏阴性杆菌产酶率(29.4%)较厌氧的革兰氏阳性球菌产酶率(16%)高[2]。本感染组厌氧菌感染率为72.9%,且不同基础疾病,其感染率亦有明显差异,肺脓疡和气管切开患者100%均有厌氧菌感染,其余依次为支气管扩张83.3%(5/6),慢支炎急性发作71.5%(15/21),急性肺炎54.5%(6/11)。由本组结果看,肺部厌氧菌感染较常见,因此,临床治疗中对肺脓疡、支气管扩张,外伤后气管切开并发肺部感染及有肺部感染证据的慢支炎患者,应常规加用厌氧菌敏感的抗生素。

关键词 肺;厌氧菌;纤维支气管镜

中图法分类号 R768.1

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(收稿:1996-10-17;修回:1997-01-10)

(编辑 汪勤俭)

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