DOI: 10.16016/j.1000-5404.1997.01.004

were treated with ST or RA for 5 days, the morphologic changes of the cells were observed with optical and transmission electron microscopy. In addition, the expression of oncogene and carcinoma suppresser gene was determined with ABC immunohistochemistry, flow cytometry and image analysis. **Results**: After the treatment of ST or RA, the carcinoma cells became well-differentiated, their contact inhibition was partially recovered and the colonyforming rate significantly decreased. The contents of the oncogenes C-myc and Bcl-2 were remarkably decreased whereas that of the tumor suppresser gene p53 increased. **Conclusion**: ST and RA can induce the differentiation of the cell lines of laryngeal and nasophryngeal carcinoma through inhibiting the expression of oncogenes and improving the expression of carcinoma suppresser gene.

Key words induced differentiation; stepholidine; proto-oncogene; tumor suppresser gene

博士生论文摘要

犬严重烟雾吸入伤早期机械通气治疗的实验研究*

Experimental study of early mechanical ventilation after severe smoke inhalation injury in dogs

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吸入性损伤是烧伤死亡的主要因素之一,急需研究出切实有效的治疗手段,目前有关机械通气治疗烟雾吸入伤尚缺乏较系统深入的研究。为此,本研究采用动物实验对比观察了4种通气模式(压力控制、压力控制+呼气末正压、压力支持+持续气道正压、压力控制反比通气)在犬严重烟雾吸入伤早期连续24 h进行机械通气治疗过程中对呼吸动力学、血流动力学、氧供求平衡、肺表面活性物质、体液因素、肺组织细胞能量负荷及膜流动性等多种指标的影响,探讨对肺水肿和肺不张的发生、发展、机体氧供求平衡影响的作用机理以及加重肺组织损伤的可能性,试图摸索出相对安全可靠的治疗方案。研究结果表明,本实验所采用的通气模式及参数对烟雾吸入伤早期血流动力学无明显不良影响,并可不同程度地增加心输出量;伤后24 h内对肺血管通透性无明显影响,未能阻止肺水肿的发生、发展,但也没有加重或促进肺水肿的形成;通过肺表面活性物质、机械性扩张等复杂的作用机理不同程度地改善肺通气换气功能;通过增加潮气量,减少呼吸频率,有利于改善肺顺应性,减少死腔/潮气量比,增加有效通气量;减缓肺动脉分流和呼吸指数的增加幅度,减轻减缓肺泡萎陷及肺不张的发生,显著提高组织供氧;减轻、减缓低氧血症和病理性氧耗/氧供依赖关系的发生、发展进程;并且短期内未对机体造成明显损害。建议在被怀疑或确诊的烟雾吸入伤患者早期尚未出现明显的血气指标改变之前尽早给予合理的机械通气。其中以压力支持+持续气道正压的治疗效果较佳。建议在烟雾吸入伤后尽早常规预防性使用压力支持+持续气道正压通气,采用参数为 PIP= 1.5 kPa(16 cm H_2O), PEEP/CPAP 0.588 kPa(6 cm H_2O)。烟雾吸入伤早期单纯机械通气治疗尚存在一定局限性,必须结合其它治疗措施,才可望逆转烟雾吸入伤对机体所造成的损害;另一方面,也有利于进一步发挥机械通气的效能。

关键词 烟雾吸入伤;机械通气;PEEP;CPAP;反比通气
肺不张;肺水肿;低氧血症;灼伤

中图法分类号 R644

(收稿: 1996-11-13;修回: 1996-12-03)

(编辑 王 红、沈锡庚)

* 全军"八五"攻关项目
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