

论著

肺间质纤维化大鼠体内明胶酶活性的变化

孔璐, 潘颖, 余和芬, 王继峰, 牛建昭

首都医科大学生物化学与分子生物学教研室, 北京 100069

收稿日期 2005-12-24 修回日期 网络版发布日期 2006-10-25 接受日期

摘要 摘要: 目的 观察肺间质纤维化大鼠体内明胶酶活性的变化情况。方法 雄性SD大鼠80只, 随机分为假手术组 (n=40) 和博莱霉素组 (BLM组, n=40)。向BLM组大鼠气管内一次性注入BLM复制肺纤维化模型, 假手术组大鼠则在气管内注入等量生理盐水。两组动物同步于气管内灌注后第1、3、7、14、28d分别随机处死8只。腹主动脉抽血分离血清, 支气管肺泡灌洗收集肺泡灌洗液, 冰浴匀浆肺组织制备匀浆液, -80℃冻存。采用明胶酶谱法测定基质金属蛋白酶活性。结果 与假手术组相比, BLM组各样品中MMP-9活性均有所增加; 血清及肺组织匀浆中MMP-9的活性在BLM注入后1d开始升高, 血清MMP-9活性在3d达高峰, 肺组织匀浆MMP-9活性在7d达高峰, 14及28d已与假手术组无明显差异; 肺泡灌洗液中MMP-9活性在BLM注入后1d开始增加, 7d达高峰, 14d趋向平稳, 28d回落。BLM组血清样品中MMP-2活性在各时间点均无明显改变; 肺泡灌洗液样品中MMP-2活性从14d起开始升高, 持续到第28d始终未见回落; 肺组织匀浆样品中MMP-2的活性升高较早, 从3d起开始升高, 至28d始终未见回落。结论 MMP-2和MMP-9在BLM致大鼠肺纤维化过程中的来源及作用均不同。

关键词 [肺纤维化](#) [博莱霉素](#) [基质金属蛋白酶](#)

分类号

Changes of Matrix Metalloproteinases Activities in Pulmonary Fibrosis Rats

KONG Lu, PAN Ying, YU He-fen, WANG Ji-feng, NIU Jian-zhao

Laboratory of Biochemistry and Molecular Biology, Capital Medical University, Beijing 100069, China

Abstract ABSTRACT: Objective To observe the changes of matrix metalloproteinases (MMPs) activities in pulmonary fibrosis rats. Methods Eighty male SD rats were randomly divided into sham group (n=40) and bleomycin group (BLM, n=40), in which SD rats were injected with a single intratracheal dose of sham saline or bleomycin respectively. On day 1, 3, 7, 14, and 28 following bleomycin or saline instillation, rats were randomly killed, and serum from abdominal aorta, alveolar fluid from the bronchoalveolar lavage, and the lung homogenate were collected and then stored at -80°C. MMPs activity was determined by zymography. Results Compared with sham group, the levels of MMP-9 in all samples were augmented. MMP-9 activities in the serum were highest on day 3 than those on day 1 and day 7, and in lung tissue homogenate were highest on day 7; however, no significant differences were found between BLM group and sham group on day 14 and day 28; and that of bronchoalveolar lavage fluid (BALF) was highest on day 7 than those on day 1 and day 14, while no significant difference existed between BLM group and sham group on day 28. Serum MMP-2 level did not change from day 1 to day 28, while the level of BALF MMP-2 began to increase after day 14, even on day 28. Lung tissue homogenate MMP-2 level began to increase early on day 3 and continued to day 28. Conclusion The sources and effects of MMP-2 and MMP-9 differ in BLM-induced rat pulmonary fibrosis.

Key words [pulmonary fibrosis](#) [bleomycin](#) [matrix metalloproteinases](#)

DOI:

通讯作者 孔璐 kongluxinxiang@sina.com.cn

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