

论著

大鼠肝再生过程中线粒体外周型苯二氮卓类受体的研究

黄鹤,任绪义,缪明永[△],周运恒,王学敏

第二军医大学生物化学与分子生物学教研室, 上海 200433

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摘要 目的: 研究肝细胞线粒体通透性转换 (PT) 的主要调节蛋白外周型苯二氮卓类受体 (PBR) 在肝再生过程中的表达及其与专一性配体结合动力学变化, 探讨与线粒体PT的关系。【HTH】方法: 健康成年雄性SD大鼠, 随机分为3组: 肝部分切除 (PH) 组, 切除肝左叶和中叶约全肝的70%; 假处理组, 同样麻醉和开腹, 但不切肝; 正常组。手术后3 h、6 h、12 h、24 h、48 h、72 h、120 h 和168 h 分别以半定量RT-PCR法检测PBR mRNA表达的动态变化。利用PBR专一的配体 [3H] PK11195测定肝再生时线粒体膜上PBR的含量以及受体与配体亲和力的变化。【HTH】结果: 在肝再生过程中PBR基因表达与假处理组无显著差异; [3H] PK11195与PBR最大结合量(Bmax)显著低于对照组 (P < 0.05), 其中PH后3 h和120 h非常显著 (P < 0.01), 168 h接近正常水平; 平衡解离常数 (Kd) 在PH后72 h和168 h明显低于假处理组 (P < 0.01)。假处理组之间Bmax和Kd无明显差异。【HTH】结论: 肝再生过程中肝线粒体PBR mRNA水平无明显变化, 而PBR与配体结合动力学明显改变提示PBR与线粒体PT变化有关。

关键词 [肝再生](#); [线粒体](#); [受体,苯二氮卓类](#); [大鼠](#)

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Changes of mitochondrial peripheral-type benzodiazepine receptor during rat live regeneration

HUANG He, REN Xu-yi, MIAO Ming-yong, ZHOU Yun-heng, WANG Xue-min

Department of Biochemistry and Molecular Biology, College of Basic Medical Science, The Second Military Medical University, Shanghai 200433, China. E-mail: miaomy1980@hotmail.com

Abstract

AIM: To investigate the expression profile of peripheral-type benzodiazepine receptor (PBR) involved in mitochondrial permeability transition (PT) regulation, and to observe the binding dynamic of the mitochondrial PBR with specificity ligand during rat live regeneration.
METHODS: Liver regeneration model was produced by 70% partial hepatectomy (PH) performed in male SD rats. The animals of sham groups underwent the same surgical operations as PH groups did, but the liver lobes were not resected. The animals in the PH groups and corresponding sham groups were sacrificed at 3, 6, 12, 24, 48, 72, 120 and 168 hours after the operation. The livers were removed, weighted and processed for isolation of mitochondria. Semi-quantitative RT-PCR was performed to examine the expression level of PBR in 70% hepatectomized rat livers during the whole regeneration process and compared to that in the sham and normal groups. Compared with healthy rats, the kinetic parameters of PBR was evaluated by using a specific radioligand [3H] -PK11195.
RESULTS: Compared with healthy rats, the expression of PBR was unchanged. Meanwhile, the results obtained in the present experiments by scatchard analysis, Bmax of PK11195 for PBR significantly decreased, returned to normal level in 168 h after PH. Kd of PK11195 for PBR significantly decreased at 72 h and 168 h after PH of rat liver regeneration (P<0.01).
CONCLUSION: The mRNA expression and evaluation of kinetic parameters of PBR may be related to the time-phase change of mitochondrial PT during rat liver regeneration after partial hepatectomy.

Key words [Liver regeneration](#) [Mitochondrial Receptors](#) [benzodiazepines](#) [Rat](#)

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