吉林大学学报(医学版) 2012, 38(6) 1058-1062 DOI: ISSN: 1671—587X CN: 22—1342/R

基础研究

蒙药乳腺-Ⅰ号对乳腺增生大鼠抗氧化能力、乳腺组织雌激素受体和孕激素受体表达的影响

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摘要：

〖GK2〗［摘 要］
目的：观察蒙药乳腺-Ⅰ（M-Ⅰ）号对乳腺增生大鼠体内抗氧化能力及乳腺组织雌激素受体(ER)、孕激素受体(PR)表达的影响，为药物的临床应用提供实验依据。方法：48只雌性未孕Wistar大鼠，随机选出 8只 作为正常对照组，其余动物每天肌肉注射苯甲酸雌二醇（0.5 mg·kg^{-1}）1次，连续25 d，随后每天肌肉注射黄体酮（4 mg·kg^{-1}）1次，连续5 d，复制大鼠乳腺增生模型，同时正常对照组大鼠肌肉注射生理盐水。模型复制成功后，随机分为5组，模型对照组大鼠给予生理盐水灌胃；阳性药对照组大鼠给予三苯氧胺1.8 mg·kg^{-1}灌胃；M-Ⅰ号低剂量组、中剂量组和高剂量组大鼠分别给予M-Ⅰ号0.5、1.0和3.0 g·kg^{-1}灌胃。给药结束后，检测各组大鼠乳头高度，观察大鼠乳腺组织病理学特征，检测大鼠血清及乳腺组织中超氧化物歧化酶(SOD)、丙二醛(MDA)和谷胱甘肽过氧化物酶(GSH-Px)水平，Western blotting法检测各组大鼠乳腺组织ER和PR的表达水平。结果：与正常对照组比较，模型对照组大鼠乳头高度仍显著增高(P<0.01)，光镜下观察乳腺组织病理改变明显,血清SOD和GSH-Px水平均显著降低（P<0.05），MDA水平显著升高（P<0.05） ，乳腺组织ER、PR的蛋白表达量显著增加（P<0.01）。与模型对照组比较，M-Ⅰ号各剂量组大鼠乳头高度明显偏小(P<0.05 或P<0.01)；乳腺组织病理学改变明显减轻，M-Ⅰ号高剂量组大鼠乳腺组织结构接近正常对照组；血清及乳腺组织中SOD和GSH-Px水平较模型对照组均显著升高（P<0.05或P<0.01），MDA水平显著降低（P<0.01或P<0.05），乳腺组织中ER和PR的蛋白表达水平亦显著降低（P<0.01）。 结论：M-Ⅰ号 对乳腺增生大鼠有较好的治疗作用，其治疗机制可能与增强乳腺增生大鼠体内抗氧化能力、降低乳腺组织中ER和PR表达水平有关。

关键词： 大鼠 Wistar；蒙药乳腺-Ⅰ号；雌激素；乳腺增生；雌激素受体

Effects of Mongolian Remedy RuXian-Ⅰ on anti-oxygenic ability and expressions of estrogen receptor and progesterone receptor in breast tissues of rats with hyperplasia of mammary glands

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Abstract:

To observe the effects of Mongolian Remedy RuXian- I(M-Ⅰ) on anti- oxygenic ability and the expressions of estrogen receptor(ER) and progesterone receptor(PR) in breast tissues of rats with hyperplasia of mammary glands,and to provide experimental basis for application of M-Ⅰ.Methods 8 rats randomly chosen from forty-eight virgin female Wistar rats were regarded as normal control group.The others were injected intramuscularly with estradiol benzoate (0.5 mg·kg^{-1}) once a day for 25 d and progesterone(4 mg·kg^{-1}) once a day for 5 d.The rats in normal control group were injected with normal saline.Then the disease model was sucesfully copied and the model rats were randomly divided into model control group,positive control group,M-Ⅰ low dosage group,M-Ⅰ middle dosage group,and M-Ⅰ high dosage group.The rats in different groups were respectively treated with normal saline,tamoxifen,M-Ⅰ 0.5,1.0 and 3.0 g·kg^{-1} for 30 d.Then the changes of nipple heights,the pathological changes in breast tissues,the levels of SOD,MDA,GSH-Px in serum and breast tissues and the expressions of ER,PR were measured. Results Compared with normal control group,the nipple height and the levels of serum MDA,and the expressions of ER and PR in model control group were obviously increased(P<0.05 or P<0.01);the serum levels of SOD,GSH-Px were obviously decreased（P<0.01).Compared with model control group,the nipple heights were lower(P<0.05 or P<0.01),and the histopathological changes were reduced in M-Ⅰ different dosages groups;the structure of breast tissue in M-Ⅰ high dosage group was close to that in normal control group;the serum levels of MDA and the expressions of ER and PR in breast tissue in M-Ⅰ high dosage group were obviously decreased(P<0.05 or P<0.01),but the levels of SOD,GSH-Px in serum and breast tissues were obviously increased(P<0.05 or P<0.01).Conclusion M-Ⅰ can treat the rats with hyperplasia of mammary glands well,and its mechanism may be related to inhancing the antioxidant ability and inhibiting the expression levels of ER and PR in breast tissues.

Keywords: rat,Wistar; Mongolian Remedy RuXian-Ⅰ; estrogen; hyperplasia of mammary glands; estrogen receptor

收稿日期 2012-07-24 修回日期 网络版发布日期 2012-11-28

DOI:

基金项目:

国家自然科学基金资助课题（30873454）

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