

论文

药物的鼻粘膜纤毛毒性及评价方法

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摘要:

提出一种新的评价方法—在体蟾蜍上腭模型,研究对乙酰氨基酚、盐酸普罗帕酮等8种药物溶液或混悬液对纤毛运动的影响,并与扫描电镜法及离体蟾蜍上腭模型比较。结果表明,在体模型简便易行,结果可靠,适用面广,是一种较理想的鼻纤毛毒性评价方法。离体模型不宜评价混悬型及粘稠性药物制剂的鼻纤毛毒性,但能进行受试药物与对照药物的同体比较,对于溶液型制剂是一种优良的评价方法。由8种药物的评价结果提示,药物对纤毛运动的影响较普遍,应予以重视。

关键词: 鼻腔给药 纤毛毒性

TOXICITY OF DRUGS ON NASAL MUCOCILIA AND THE METHOD OF ITS EVALUATION

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Abstract:

Effect of solutions or suspensions of eight drugs including analgin,paracetamol, propafenone hydrochloride,propranolol hydrochloride,ephedrine hydrochloride,gentamycin sulfate,sodium deoxycholate and hydrocortisone on ciliary movement were evaluated with *in vitro* or *in situ* toad palste model and scanning microscope. *In vitro* toad palate model:0.2 ml of test drug solution or suspension was applied to a piece of freshly dissected upper palate of toad. The mucocilia were examined with an optical microscope and the lasting time of ciliary movement was recorded after drug application.The upper palate was rinsed with physiological saline when the ciliary movement stopped. The lasting time of cdiliary time of ciliary movement after rinsing was then recorded again.*In situ* palate model:0.5 ml of test drug soltion or suspension was applied to the upper palate of toad for 30 min, and rinsed with physiological saline.The palate was dissected out and the operation was carried out in a similar manner. The results showed that the *in situ* toad palate model is a Satisfactory method for studying the ciliotoxicity of drugs,The *in vitro* toad palate model is unsuitable for suspension and gel. The results of the eight drugs revealed that ciliary movement is frequently affected by many drugs and, therefore,care must be taken in developing any nasal dosage form to ensure its least ciliotoxicity.

Keywords: Ciliotoxicity Intranasal administration

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