

论文

山莨菪碱对大鼠胸水中性白细胞花生四烯酸代谢的影响

岳天立; 麦凯; 佟丽

第二军医大学药理学教研室, 上海; **第一军医大学中西医结合研究室, 广州

摘要:

本文研究了654-2对大鼠胸水中性白细胞代谢[1-¹⁴C]AA及内源性AA的影响。大鼠白细胞AA经5-LPO代谢途径形成的主要产物为LTB₄及5-HETE, 经CO途径的主要产物为HHT及TXB₂。654-2对白细胞代谢[1-¹⁴C]AA无抑制作用, 但显著减少白细胞从内源性AA形成的LTB₄, 5-HETE, HHT及TXB₂。这种抑制作用与654-2呈剂量依赖关系。本实验结果表明, 654-2抑制PG及LT的形成可能是影响了AA从胞膜的释放, 而非直接抑制CO及5-LPO。

关键词: 山莨菪碱 中性白细胞 前列腺素 自三烯 花生四烯酸代谢

EFFECTS OF ANISODAMINE ON THE METABOLISM OF ARACHIDONIC ACID BY RAT PLEURAL NEUTROPHILS

TL Yue; K Mai and L Tong

Abstract:

The effects of anisodamine (654-2) on the metabolism of arachidonic acid (AA) by rat pleural neutrophils were investigated. The major products of metabolism by 5-lipoxygenase (5-LPO), measured by HPLC, were LTB₄ and 5-HETE, whereas the major cyclooxygenase (CO) products measured by HPLC and RIA, were HHT and TXB₂. The formation of all products from endogenous AA by neutrophils was significantly depressed by 654-2 in a dose-dependent manner. At the concentration of 3 × 10⁻⁴ mol/L the formation of LTB₄, 5-HETE, HHT and TXB₂ were decreased by 26, 29, 31 and 25%, respectively. This reduction was more than 40% when the concentration of 654-2 was 1 × 10⁻³ mol/L. However, the inhibitory effect was not significant when the concentration of 654-2 was below 5 × 10⁻⁵ mol/L. No effect of 654-2 on metabolism of [1-¹⁴C] AA by rat neutrophils was observed. The different effects of 654-2 on the metabolism of endogenous and exogenous AA indicate that the inhibitory effect of 654-2 on formation of both 5-LPO and CO products from endogenous substrate may be due to the reduction of AA release from cell membrane rather than inhibition of 5-LPO and CO activity.

Keywords: Neutrophils Prostaglandins Leukotrienes Arachidonic acid metabolism Anisodamine

收稿日期 1987-11-21 修回日期 网络版发布日期

DOI:

基金项目:

通讯作者:

作者简介:

参考文献:

本刊中的类似文章

1. 陈怀侠; 杜鹏; 韩凤梅; 陈勇. 大鼠粪样中山莨菪碱及其代谢物的串联质谱法检测[J]. 药学报, 2006, 41(12): 1166-1169
2. 陈锦明; 谷淑玲. 山莨菪碱的抗心律失常作用[J]. 药学报, 1988, 23(11): 857-859
3. 岳天立; 麦凯. 山莨菪碱对乙酰胆碱和去甲肾上腺素引起的兔虹膜释放前列腺素的影响[J]. 药学报, 1987, 22(11): 807-811
4. 沈国励; 张燕; 俞汝勤. 山莨菪碱选择性电极的研究[J]. 药学报, 1985, 20(2): 151-154
5. 谢蓝; 池华; 周同惠. 山莨菪碱(654-2)异构体的高效液相色谱法分离[J]. 药学报, 1991, 26(7): 527-530

扩展功能

本文信息

- ▶ Supporting info
- ▶ PDF (323KB)
- ▶ [HTML全文]
- ▶ 参考文献

服务与反馈

- ▶ 把本文推荐给朋友
- ▶ 加入我的书架
- ▶ 加入引用管理器
- ▶ 引用本文
- ▶ Email Alert
- ▶ 文章反馈
- ▶ 浏览反馈信息

本文关键词相关文章

- ▶ 山莨菪碱
- ▶ 中性白细胞
- ▶ 前列腺素
- ▶ 自三烯
- ▶ 花生四烯酸代谢

本文作者相关文章

- ▶ 岳天立
- ▶ 麦凯
- ▶ 佟丽

PubMed

- ▶ Article by
- ▶ Article by
- ▶ Article by

6. 方洪钜;程克棣;徐妍青.颠茄类生物碱的毛细管气相色谱和色—质联用分析[J]. 药学学报, 1992,27(3): 220-226
7. 谷淑玲;陈锦明;崔家勇;彭振云;董红燕;周洁.苜蓿碱与山莨菪碱合用对心肌缺血再灌注损伤的保护作用[J]. 药学学报, 1995,30(1): 1-1
8. 曾国钱;鞠佃文;孙笃新;芮耀诚.山莨菪碱和蝙蝠葛碱对白三烯和PAF诱导的牛脑前动脉平滑肌细胞DNA合成的影响(英文)[J]. 药学学报, 1992,27(8): 561-565
9. 王维君;李伊宁.山莨菪碱及阿托品对大鼠肝、横纹肌及趾蹼血管的作用[J]. 药学学报, 1992,27(5): 385-387
10. 郑长胜;谢晶曦.山莨菪碱四个光学异构体的合成和分离[J]. 药学学报, 1991,26(2): 96-102
11. 刘万忠;伍佩真;晏哲;杨纯华;李安娟;许汝正.阿托品流通传感器的研制及其在流动注射分析中的应用[J]. 药学学报, 1990,25(6): 451-456
12. 岳天立;陈新生;李坚.山莨菪碱对洗涤大鼠血小板代谢花生四烯酸的影响[J]. 药学学报, 1989,24(9): 647-652
13. 肖殿模;王晓鲁;陈华粹.山莨菪碱对内毒素刺激的巨噬细胞和内皮细胞前列腺素合成的影响[J]. 药学学报, 1988,23(5): 327-331
14. 陈鹭声;司德昭.北京地区泡囊草的引种和生物学特性观察[J]. 药学学报, 1984,19(11): 869-875

文章评论 (请注意:本站实行文责自负, 请不要发表与学术无关的内容!评论内容不代表本站观点.)

反 馈 人	<input style="width: 95%;" type="text"/>	邮箱地址	<input style="width: 95%;" type="text"/>
反 馈 标 题	<input style="width: 95%;" type="text"/>	验证码	<input style="width: 40%;" type="text"/> 0844