

论著

大鼠硬膜外和静脉注射虎纹毒素- I 后的组织分布

廖智², 戴舒佳¹, 刘秀文^{1*}, 梁宋平², 汤仲明¹

(1. 北京放射医学研究所, 北京 100850; 2. 湖南师范大学生命科学学院, 湖南 长沙 410081)

收稿日期 2002-6-5 修回日期 网络版发布日期 2008-10-16 接受日期 2002-12-2

摘要 目的 比较大鼠硬膜外(ed)和iv [¹²⁵I] 标记虎纹毒素- I ([¹²⁵I] HWTX- I)后分布的差异。方法 Iodogen法制备 [¹²⁵I] HWTX- I , 膈神经-膈肌法测定生物活性。反相高效液相色谱法鉴定放射化学纯度, 三氯醋酸沉淀法测定放射性药物浓度。结果 [¹²⁵I] HWTX- I 生物活性标记前后相近, 放射化学纯度为98.5%。给药后2 h, ed组椎管局部放射性明显高于iv组 ($P<0.05$), ed和iv后组织放射性分别在2 h和10 min达峰值。泌尿系统放射性含量最高, 脂肪、肌肉和脑放射性最低。放射性主要经尿排泄。结论 ed后椎管局部放射性高, 维持时间较长, 血清峰浓度较iv组低, 有利于发挥局部镇痛作用, 减少全身副作用。

关键词 [虎纹毒素- I](#) [硬膜外注射](#) [组织分布](#)

分类号 [R969.3](#)

Distribution profiles of huwentoxin- I after epidural and intravenous administration in rats

LIAO Zhi², DAI Shu-Jia¹, LIU Xiu-Wen^{1*}, LIANG Song-Ping², TANG Zhong-Ming¹

(1. Beijing Institute of Radiation Medicine, Beijing 100850, China; 2. College of Life Science, Hunan Normal University, Changsha 410081, China)

Abstract

AIM To compare the bio-distribution of ¹²⁵I-labeled huwentoxin- I ([¹²⁵I] huwentoxin- I , a novel analgesic peptide purified from the venom of spider *Selenocosmia huwenna*) after epidural(ed) and intravenous injection(iv) 13.2 kBq·g⁻¹ in rats. **METHODS** [¹²⁵I] huwentoxin- I was prepared with iodogen methods and purified by gel filtration. The purity of [¹²⁵I] huwentoxin- I identified by reverse phase high performance liquid chromatography was 98.5% and exhibited biological activity assayed by mouse phrenic nerve diaphragm preparation *in vitro*. **RESULTS** Radioactivity in duralvertebral samples was significantly higher after ed than after iv, indicating a successful injection of [¹²⁵I] huwentoxin- I into epidural space. Radioactivity in epidural space declined post- injection and sustained for a long time after ed injection. Radioactivity showed a gradient in body tissues following ed injection. The distribution profiles after iv were similar to ed but higher in most tissues. The highest concentrations in most tissues were found at 2 h following ed injection and at 10 min after iv.

CONCLUSION The bio-distribution profiles following epidural injection confirmed the higher concentration in dural-vertebral samples and lower peak concentration in serum.

Key words [huwentoxin- I](#) [injection](#) [epidural](#) [distribution](#) [tissue](#)

DOI:

通讯作者 刘秀文 liuxw@nic.bmi.ac.cn

扩展功能

本文信息

▶ [Supporting info](#)

▶ [PDF\(514KB\)](#)

▶ [\[HTML全文\]\(0KB\)](#)

▶ [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](#)

▶ [复制索引](#)

▶ [Email Alert](#)

▶ [文章反馈](#)

▶ [浏览反馈信息](#)

相关信息

▶ [本刊中 包含“虎纹毒素- I” 的相关文章](#)

▶ [本文作者相关文章](#)

- [廖智](#)
- [戴舒佳](#)
- [刘秀文](#)
- [梁宋平](#)
- [汤仲明](#)