

论文

利多卡因凝胶经皮吸收的动力学和药效学

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摘要:

目的研究利多卡因凝胶的经皮吸收动力学以及药效学。方法用经皮微渗析的方法测定大鼠真皮内药物浓度的变化,计算相关参数;用电刺激法考察药效,并与市售EMLA(eutectic mixture of local anesthetics)霜剂进行药效比较。结果持续用药1 h,利多卡因经皮吸收动力学曲线在1.25 h达到峰值;起效时间与EMLA霜剂相近,局麻作用维持时间和局麻强度优于EMLA。结论利多卡因凝胶具有良好的局麻作用;局部用药后,利多卡因产生局部麻醉作用的真皮中最低有效浓度为12 mg·L⁻¹。

关键词: 利多卡因 凝胶 经皮微渗析 药效学

Cutaneous permeation kinetics and pharmacodynamics of topical lidocaine gel in rat

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Abstract:

AimTo study the cutaneous permeation kinetics and pharmacodynamics of lidocaine gel. MethodsThe concentration of lidocaine in dermis following topical application in rats was determined by the cutaneous microdialysis technique and related parameters were calculated; the pharmacodynamics of the gel was evaluated by electric stimulation method with EMLA (eutectic mixture of local anesthetics) cream as a control. ResultsThe peak of percutaneous absorption kinetic profile of lidocaine gel across rat skin occurred at 1.25 h; the onset time of local anesthetic action of lidocaine gel was similar to that of EMLA, but both the duration and depth of anesthetic effect were superior to EMLA cream. ConclusionLidocaine gel showed good anesthetic effect. The minimum effective concentration of lidocaine in dermis is 12 mg·L⁻¹.

Keywords: gel cutaneous microdialysis pharmacodynamics lidocaine

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