Short communication

Antinociceptive effect of lidocaine in rats

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Abstract:
Lidocaine, a local anesthetic drug, exerts its effect by blocking sodium channels in peripheral sensory neurons. It is commonly used in clinical practice as a local anesthetic drug. This study was undertaken in order to determine the effect of lidocaine on sodium channels in neurons of the central nervous system and its modulatory effect on the pain perception in rats. Therefore, the effect of direct lidocaine administration icv on pain perception in rats exposed to noxious thermal stimuli was determined. A significant long-lasting antinociceptive effect of lidocaine injected at the doses ranging between 0.065–1.3 µmol (17.5–351 µg, respectively) was documented. It was concluded that intracerebral administration of sodium channel blockers might be a useful method in the study of pain perception in the brain.

Keywords:
pain, lidocaine, intracerebroventricular administration, rat