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Microinjection of limonene into caudate nucleus inhibits interdigestive myoelectrical complexe of rats

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Abstract

AIM: We have discovered that Limonene modulates interdigestive myoelectrical complexes (IMCs) of gastrointestinal tract in rats. In this research we will elucidate weather limonene affects acetylcholine M-receptor in caudate nucleus.

METHODS: Changes of IMCs were studied after limonene and/or atropine were microinjected into caudate nucleus. IMCs were recorded by a RM-6200 four-channel recorder and then delivered to Maclab and Power Macintosh.

RESULTS: The active phases of IMCs occupied about 40% of total cycle in average. After microinjection of limonene into caudate nucleus, the active phases were significantly shortened, while the cycle time of IMCs were not changed significantly. The inhibitory effects of limonene were abolished by pretreatment with atropine, whilst the atropine has no effect on IMCs.

CONCLUSION: It is suggested that limonene inhabits the gastrointestinal IMCs by affecting M-receptor in caudate nucleus.

Key words: Limonene; Interdigestive myoelectrical complexes; Caudate nucleus; Rat

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