Central effect of histamine in a rat model of acute trigeminal pain

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Abstract:
In conscious rats implanted with an intracerebroventricular (icv) cannula, effect of icv injections of histamine, chlorpheniramine (H1-receptor antagonist) and ranitidine (H2-receptor blocker) was investigated in a rat model of acute trigeminal pain. Acute trigeminal pain was induced by putting a drop of 5 M NaCl solution on the corneal surface of the eye and the numbers of eye wipes were counted during the first 30 s. Histamine (20, 40 µg) and chlorpheniramine (80 µg) significantly decreased the numbers of eye wipes. Ranitidine alone had no effect. Pretreatment with chlorpheniramine did not change the histamine-induced analgesia, whereas the histamine effect on pain was inhibited with ranitidine pretreatment. These results indicate that the brain histamine, through central H2 receptors, may be involved in the modulation of the acute trigeminal pain in rats.

Key words:
brain, histamine, acute trigeminal pain, rats