Preclinical and Clinical Pharmacology of Cyamemazine: Anxiolytic Effects and Prevention of Alcohol and Benzodiazepine Withdrawal Syndrome

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ABSTRACT

Several studies have suggested that the antipsychotic compound, cyamemazine, possesses anxiolytic properties in humans. The original pharmacological profile of cyamemazine (D2, 5-HT2A, 5-HT2C, and 5-HT3 receptor antagonist), which was established by binding, microdialysis and behavioral studies, is consistent with these observations. In the light/dark exploration test, cyamemazine demonstrated anxiolytic-like activity by acute, but not chronic administration. By chronic administration, however, cyamemazine increased the time spent in the open arms of the elevated plus maze (EPM) test demonstrating anxiolytic-like activity. The discrepancy between the results obtained in these tests by acute and chronic administration, could be due to a combination of dopamine D2 receptor antagonism with antagonism of the 5-HT2C and 5-HT3 receptors. The action of cyamemazine on both the dopaminergic system and 5-HT3 receptors could also explain the activity of cyamemazine in the management of alcohol withdrawal demonstrated in preclinical studies. This potential indication for cyamemazine and its activity in benzodiazepine withdrawal syndrome have recently been investigated in clinical trials and the results of these studies are presented in this review.

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