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P i.p. dex'amphetamine' = phenamine 'cocaine' 'caffeine' 'psychosedative' 'diphenylmethane' benactyzine = amizil 'diazepam' 'meprobamate' 'chlordiazepoxide' 'imipramine' = imizil 'phenobarbital' 'morphine' 'LSD' = Delysid influence on 'reflex-motive' el.self.stimulation of 'hypothalamus' rat /IV/ /XXVI/ /XXXII/

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Peculiarities of the Influence of Neurotropic Agents on the Hypothalamic Self-Stimulation.(Russ.).

The effects of various neurotropics on lateral hypothalamic self-stimulation in rats were studied.

Methods

Male rats (250-350 g) were implanted with monopolar electrodes in the lateral hypothalamus under nembutal anesthesia (40 mg/kg i.p.). After recovery the rats were trained to self-stimulation through the electrode by pedal depression. The stimulatory current was varied, and the frequency of self-stimulation determined at the different current strengths (threshold, optimal and supra-optimal current strengths). The effects of 1 mg/kg phenamine (d-amphetamine), 10 mg/kg cocaine, 30 mg/kg caffeine, 1-3 mg/kg amizil (benactyzine), 0.5-1 mg/kg diazepam, 10-20 mg/kg meprobamate, 3 mg/kg chlordiazepoxide, 3 mg/kg imizine (imipramine), 5-20 mg/kg phenobarbital, 3-10 mg/kg morphine and 0.05-0.5 mg/kg LSD-25 administered i.p. 30 min beforehand were studied in terms of frequency of self-stimulation at various current strengths.

Results

Phenamine, cocaine, caffeine, morphine and imipramine reduced the threshold of self-stimulation, increasing the frequency at threshold current strengths but decreasing the frequency at higher current strengths; these drugs appear to exert a direct stimulatory action on the positive reinforcement system. Meprobamate, diazepam and chlordiazepoxide had no effects on the threshold of self-stimulation but did increase the frequency of self-stimulation at all current strengths; these drugs appear to activate the positive reinforcement system in an indirect way by depressing the negative reinforcement system. Amizil and LSD-25 (at 0.1 mg/kg only) as well as phenobarbital decreased the threshold but tended to increase the frequency of self-stimulation at all current strengths.

1 Fig. 1 Tab. 12 Ref. S31/CTW/JE

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