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Immediate effect of colchicine on rat memory

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Immediate effect of colchicine on rat memory

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Abstract:

Deleterious effect of neurotoxins on the brain is an attractive research in the animal subjects. In this research the immediate damaging effect of colchicine on hippocampal CA1 was shown by examining the novelty seeking behavior. Mature Wistar rats were bilaterally cannulated at the coordinates of interested area. After 1 week, they experienced the novelty behavior in the unbiased conditioning apparatus. The process was run using a three-stage program. Animals in the first day (day 1), moved freely (10 min) in the box to familiar with the device. Over the next 3 days, they were confined twice daily (for 40 min a day with 6 hr interval). In the last day (Day 5) the animals were injected colchicine (5 and 25 µg/the rat hippocampus) prior to testing (lasted 10 min/ similarly to the familiarization situation). The provided concentration of neurotoxin was injected in size 0.5 mL/ each side of the brain over a period of 30 s. Immediate injection of colchicine significantly caused impairment of the learning process and as data show the rats receiving colchicine preferred unconfined part as the new environment in the test day, while they have been familiar with that part in the first day. Each type of memory and the forming of the memories require a very interesting and time taking learning process though taking some times so short that cannot be ranked under the general understanding. This team showed the immediate harmful effect of colchicine on the rat memory.

Key words: Memory, Colchicine, Novelty seeking behavior