

Ketanserin effects on rat behavioral responses: Modifications by the estrous cycle, ovariectomy and estradiol replacement

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The present investigation was designed to explore the influence of estrous cycle phase, ovariectomy, and estradiol replacement on the behavioral effects of the 5-HT₂ receptor antagonist, ketanserin. The parameters under investigation were ketanserin-influenced acquisition of conditioning avoidance responses (CARs), and the performance of some spontaneous motor behaviors. Ketanserin (KET 3 mg/kg) injected subcutaneously 30 min before testing improved active conditioned avoidance in intact female rats at estrus, and in ovariectomized (OVX) rats with estradiol replacement. Furthermore, KET impaired performance in female rats at diestrus and after ovariectomy. In male rats, which were included in this study in order to compare their behavioral responses with those exhibited by female rats, KET administration enhanced acquisition of CARs. These results provide behavioral evidence for the hypothesis that central serotonergic activity is a function of the hormonal status of the animal. An add