

700**DEPRESSIVE-LIKE BEHAVIOR IS REDUCED BY ADMINISTRATION OF KETAMINE IN OVARIECTOMIZED RATS**

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Introduction: Menopause is physiological process characterized by the loss of ovarian follicular activity. Estrogen deficiency is associated with the onset of depressive and anxiety symptoms and cognitive impairment. Study aims to explore depressive-like and anxiety-like behaviors and cognitive impairment in ovariectomized rats. **Methods:** 28 female Wistar adult rats, housed four per cage. Animals were kept on ideal conditions of bioterium. Initially were distributed into two groups: ovariectomized (OVX) and false surgery (SHAM). Hormonal status was verified by vaginal cytology and the rats were subjected to the forced swimming (FS), object recognition (OR), and elevated plus maze (EPM) tests. After natural menopause in SHAM group, each group was subdivided into two more groups that received ketamine or vehicle and the FS test was repeated. SHAM rats entered natural menopause precociously. Data are presented as mean \pm S.E.M. Student's t test or one-way ANOVA followed by Student-Newman-Keuls (SNK) were used to evaluate differences between groups. Approved by CEUA/HCPA 110586. **Results:** OVX group showed increased immobility time in the FS test as compared to SHAM group ($P=0.03$). OR test, both groups (OVX and SHAM) present similar percentage of exploration in the short term memory session ($P>0.05$). At 24 hours of training, OVX group showed impairment in the long term memory performance than SHAM group ($P=0.04$). EPM test, OVX group showed decreased time spent on open arms ($P=0.01$), lower number of entries on open arms ($P=0.01$) and lower number of NPHD ($P=0.003$) as compared to SHAM group, suggesting an anxiety-like behavior in the OVX female rats. After aging (at P180), the SHAM group presented a natural menopause, showing signs of hypoestrogenism and depressive-like behavior linked to increased immobility time on FS retest ($P<0.05$). At P180, both groups that received ketamine (SHAM-K and OVX-K) improved its performance and decreased the immobility time, showing that ketamine reversed depression-like behaviors in the FS retest ($P<0.05$). **Conclusion:** Female rats (OVX) and (SHAM) showed depressive-like behavior probably related to hypoestrogenism. These results are consistent with the scientific evidence about neuromodulatory effect of estrogen on mood and cognition, showing the ketamine's acute action on depressive-like behavior on a model of menopause. **Financial Support:** FIPE/GPPG-HCPA, CNPq, CAPES. **Palavra-chave:** menopause; ketamine; female rats. Projeto 110586