

## **P61. Action of melatonin, metformin, clomiphene citrate in the endometrium of rats in permanent estrus**

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**Objective:** Evaluate the polycystic ovarian syndrome (PCOS) effects can cause in the uterus histomorphometry of rats in permanent estrus, treated with melatonin. Thickness and number of glands, as well as quantify the number of eosinophilic cells, the percentage of birefringent collagen fibers and to evaluate Ki-67 (cell proliferation) and Vegf-A (angiogenic factor) immunoexpression of rat uterus were evaluated. **Methods:** 18 rats were divided into 3 groups with 6 animals each. Control group with rats exposed to continuous light for 60 days, causing permanent estrous (GCtrl). Experimental groups were divided in 2 experiments. Experiment 1 (prevention) consisted of animals exposed to continuous light for 60 days receiving melatonin (GM1). Experiment 2 (treatment) had the same group configuration, from Experiment 1, but animals were exposed for 60 days before treatment to induce permanent estrous (GM2). At the end of each experiment, all animals were anesthetized and uterine horns were fixed in 10% buffered formalin and processed for paraffin inclusion. Three histological sections (4?m thick) were collected and submitted to H.E, Picro Sirius Red staining and Immunohistochemistry for each animal. Data was submitted to Student's t-test ( $p < 0.05$ ). **Results:** The study showed histomorphometric results regarding endometrial thickness were no trophic results for both GM1 and GM2 when compared to the Ctrl group. The quantity of glands showed trophic results for groups GM1 in relation to the Ctrl group. For the eosinophils evaluation, the results were trophic for both GM1 and GM2 when compared with GCtrl. In regard of collagen percentage, GM1 showed a decreased expression when compared with GCtrl. However, GM2 showed trophic results when compared with GCtrl. For immunohistochemical results, Ki-67 expression was significantly lower in GM1 and GM2 when compared with GCtrl. Regarding Vegf-A, there was a similar result, with a lower expression in GM1 and GM2 when compared with GCtrl. **Conclusion:** Melatonin do not promote proliferative and angiogenic effects in the endometrium of estrous permanent rats. These effects are similar both before and after the induction of PCOS by exposure to continuous light.

**Key words:** Endometrium, Permanent estrus, Melatonin

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