ISGE
GYNECOLOGICAL ENDOCRINOLOGY
THE 18TH WORLD CONGRESS
7-10 MARCH 2018 FLORENCE, ITALY

P40. Action of melatonin, metformin, clomiphenic citrate in the ovary of rats in permanent estro

A Carbonel (BR) [1], G R Sasso (BR) [2], L A Lombardi (BR) [3], M C Baracat (BR) [4], J M Soares Junior (BR) [5], M J Simões (BR) [6], R S Simões (BR) [7]

Objectives: To evaluate the effects of melatonin, metformin and clomiphene citrate on ovaries of rats in permanent estrus. Methodology: 30 rats were divided into five groups with 6 animals each, namely: GSHAM - rats in physiological estrus; GCTR - rats in permanent estrus; GMEL - rats treated with melatonin; GMET - metformin treated rats and GCC - rats treated with clomiphene citrate. The animals of the Sham group remained under normal conditions of the vivarium with light period from 7:00 am to 7:00 p.m. while the animals of the other groups remained in a continuous litter room (400 Watts) for a period of 60 days. During the 60 days of exposure to light, the animals of the MEL groups received daily melatonin (0.4 ?g / ml) diluted in the drinking water while the animals of the MET group received metformin daily (50 mg / kg) via gavage. On the other hand, the animals belonging to the CC group received daily clomiphene citrate (1.6 mg / kg) by peritoneal injection in the last five days of exposure. After treatment and exposure to light, the animals were anesthetized and euthanized and the ovaries were immediately retained and immersed in 10% formalin for histological processing. In sections with 5 ?m stained by H.E, the number of cysts, luteal bodies and the relative area of interstitial cells in the ovaries were analyzed. Results: The morphological analysis showed numerous ovarian cysts, absence of luteal bodies and high concentration of interstitial cells in GCTR animals in relation to GSHAM animals. In the animals of the MEL, MET and CC groups we can observe the presence of luteal bodies being in greater quantity in the animals treated with melatonin followed by the animals treated with clomiphene citrate. There was also a slight decrease of cysts in the animals treated with melatonin compared to the control group. However the presence of cysts was increased in the group treated with clomiphene citrate. Concerning the area of occupancy of interstitial cells, there was a decrease in all treated groups in relation to the control group (GCTR) ($p < 0.05$). This decrease is higher in the group treated with melatonin, followed by the group treated with clomiphene citrate. Conclusion: Melatonin seems to be more efficient in reducing the state of anovulation in rats that are stimulated to enter permanent estrus, as well as in the prevention of cysts formation and in the occupation of interstitial androgen producing cells.

[1] Federal University of São Paulo, [2] Federal University of São Paulo, [3] Federal University of São Paulo, [4] Department of Obstetrics and Gynecology, Medicine Faculty of University of Sao Paulo – FMUSP, Sao Paulo, Brazil, [5] Department of Obstetrics and Gynecology, Medicine Faculty of University of Sao Paulo – FMUSP, Sao Paulo, Brazil, [6] Federal University of São Paulo, [7] Department of Obstetrics and Gynecology, Medicine Faculty of University of Sao Paulo – FMUSP, Sao Paulo, Brazil