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

P2. Different secretory pattern of melatonin in obese menopausal women: preliminary results

M LLANO (AR) [1], G FIDELEFF (AR) [2], H FIDELEFF (AR) [3], M SIGAL (AR) [4], M GILLIGAN (AR) [5], A TABLADO (AR) [6], M LABOVSKY (AR) [7], H BOQUETE (AR) [8]

Context: Melatonin (a neurohormone secreted by the pineal gland) plays an important role in the regulation of circadian rhythm. Melatonin varies with age, is involved in energy metabolism and has been shown to influence gonadotropic activity. Objective: to evaluate the levels of 6-sulfatoxymelatonin (6-SM), the main melatonin metabolite in the urine, in premenopausal and menopausal women with normal weight and obesity. Material and Methods: We evaluated 61 women: 19 were menopausal with normal weight: Median 56 yr., BMI Median 24 (range 20-25); 11 were menopausal and obese: Median 56 yr., BMI 31 (30-41), 15 were premenopausal with normal weight: Median 28 yr., BMI 22 (19-25) and 16 were premenopausal and obese: Median 26 yr, BMI 34 (30-43). 6-SM was measured in diurnal and nocturnal urine samples, µg/time interval (radioimmunoassay, StockgrandLtd, Guildford, UK). The nighttime-daytime delta value and 6-SM/BMI (ng/Kg/m2) ratio were calculated. Results: Considering all obese and normal weight subjects, menopausal women showed levels of 6-SM significantly lower than premenopausal women in diurnal, nocturnal, total and delta secretion. In absolute values, menopausal and premenopausal women did not show significant differences in melatonin secretion. However, when adjusting by BMI, 6-SM excretion was lower in obese premenopausal women than in premenopausal normal-weight women (Mann Whitney test): nocturnal 6-SM: 308.5(153-540) vs. 415.8(271.8-696.3), p=0.03; delta 280.9(137.2-527) vs. 390.4(234-649.5) p=0.03; total 6-SM 336(168.8-555.7) vs. 441.3(296.7-743.2) p=0.02. In menopausal women, no significant differences were found between obese and normal-weight subjects when adjusting by BMI. Conclusions: The different secretory pattern of 6-SM excretion in obese menopausal vs. obese premenopausal women only became evident when adjusting 6-SM excretion by BMI. As the adjustment by BMI allows setting aside the volume of distribution in the body, this finding might be explained by certain hormonal effects of the adipose tissue on melatonin secretion or, eventually, some CNS changes in obese menopausal. Our preliminary results would also suggest the need to correlate melatonin secretion with gonadal axis-related hormones to evaluate potential changes in the cross-talk between these hormones and the CNS in obese menopausal women.

[1] ALVAREZ HOSPITAL, BUENOS AIRES, [2] ALVAREZ HOSPITAL, BUENOS AIRES., [3] ALVAREZ HOSPITAL, BUENOS AIRES., [4] ALVAREZ HOSPITAL, BUENOS AIRES., [5] ALVAREZ HOSPITAL, BUENOS AIRES., [6] BUENOS AIRES, [7] BUENOS AIRES, [8] ALVAREZ HOSPITAL, BUENOS AIRES.