ANDROGEN LEVEL AND AUTOIMMUNITY IN PATIENTS WITH PREMATURE OVARIAN INSUFFICIENCY

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The steroid sex hormones are likely to directly modulate the function of immune response, since lymphocytes and myeloid cells express estrogen and androgen receptors. Low functional ovarian reserve is at all ages associated with low testosterone levels. Its implication on autoimmunity in patients with premature ovarian insufficiency (POI) is still mostly unrevealed.

AIM: To compare androgen levels (testosterone, dehydroepiandrosteron) in POI patients with and without organ-specific autoimmunity.

METHODS: 180 women with idiopathic POI (loss of menstrual cycle before age of 40, FSH>40IU, E2<50 pmol/l). Women with iatrogenic POI were excluded. Patients were divided in two groups: POI (antibody positive-Ab(+)), 82 women, with presence of at least one antibody (antimicrosomal, antithyreoglobulin, antiparietal, anti DNA, antinuclear, antimitochondrial, antiphospholipid, antineutrophil, anticardiolipin or antiovarian), and POI Ab(-), 98 women without any of these Ab. The groups were homogenous in age, BMI, time of menarche and last menstruation. The blood was taken for FSH, LH, E2, T, DHEAS, SHBG. Statistics: ANOVA test, chi quadrat test.

RESULTS: There were significantly different lower estradiol levels in POI Ab(+), (19.2±34.7 vs. 35.3±85.3 pmol/l), p<0.05, as were testosterone levels in POI Ab(+) vs. POI Ab(-) (0.63±0.94 vs.2.34±11.22 nmol/l), p<0.05. There were no significant differences in FSH, LH, SHBG and DHEAS level between the two groups.

CONCLUSION: These data reveal lower testosterone and estradiol levels in POI patients with autoimmunity, which could have a permisive role on expression of autoimmune diseases in women with premature ovarian insufficiency.