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"THE ROLE OF INACTIVE PITUITARY ADENOMAS IN THE DEVELOPMENT OF GONADOTROPIC HYPOGONADISM IN WOMEN: BIOLOGICAL AND HORMONAL FEATURES"

Hamrayeva D. I.
Kholova D. Sh.

Abstract:
The article discusses the role of inactive pituitary adenoma in the development of hypogonadotropic hypogonadism in women. Clinical manifestations and hormonal changes were studied in 76 patients aged 18 to 47 years. It was found that hypogonadotropic hypogonadism is the most common clinical manifestation of pituitary insufficiency (67%) in tumors of the chiasmal-sellar region. The main symptoms include menstrual irregularities, infertility, neurovegetative and urogenital disorders, as well as uterine and ovarian hypoplasia. Symptoms of hypogonadism appear in the early stages of the disease, before the development of visual and neurological disorders. The diagnosis is confirmed by a decrease in the levels of LH, FSH and estradiol.

Keywords: Hypogonadotropic hypogonadism, pituitary adenoma, tumors of the chiasmatic-sellar region, amenorrhea, infertility, neurovegetative disorders, hormonal changes.

Aim: To study the role of inactive pituitary adenoma in the development of hypogonadotropic hypogonadism, as well as to evaluate the clinical and hormonal features of women with hypogonadotropic hypogonadism.

Materials and methods: We studied 76 female patients aged 18 to 47 years (median 36 years) with inactive pituitary adenoma. We collected anamnestic, clinical data and the results of hormonal studies of pituitary function with an assessment of the hormone levels of TSH (thyroid stimulating hormone), free T4, adrenocorticotropic hormone (ACTH), cortisol, prolactin (PRL), luteinizing hormone (LH), follicle-stimulating hormone (FSH), estradiol in women. The

obtained data were processed using Microsoft Excel and Statistica 6.0. Mean values (M) and standard deviations of mean values (m) were calculated. The reliability of differences in the level between groups was assessed by the value of the confidence interval and the Student's criterion (p). Differences were considered statistically significant at $p < 0.05$.

Results and discussion: According to the anamnesis data, the first clinical manifestation of the disease in 48 patients (62% of the total number of examined patients) was sexual dysfunction. Of these, in 28 patients (62% of the total number of women), the disease began with menstrual cycle disorders: primary amenorrhea was observed in 6 (14%) patients, secondary amenorrhea – in 19 (41%) women, oligo/opsomenorrhea - in 3 (7%) patients. Infertility was the reason for the first visit to the doctor in 8 patients (18% of the total number of women). Headache was the first symptom of the disease in 41 (53%) patients, in 25 (32%) patients the disease began with visual impairment (decreased acuity and/or limitation of the visual fields). Weight gain not related to eating behavior as the first symptom was observed in 12 patients (15%), weight loss - in 3 patients (4%), galactorrhea - in 2 (3%) women. The structure and frequency of the main complaints in patients with inactive pituitary adenoma at the manifestation of the disease is presented in the table 1
According to the anamnesis data, the duration of the disease from the moment of the first signs to the moment of examination of patients ranged from 6 months to 15 years. During the initial examination, 52 (67%) patients with pelvic tract tumors showed clinical signs of hypogonadism, which were subsequently confirmed by the results of a hormonal blood test and ultrasound scan of the pelvic organs (in women). According to the results of ultrasound examination of the pelvic organs, patients with primary amenorrhea revealed significantly smaller sizes of the uterus and ovaries compared to patients with secondary amenorrhea, which indicates more pronounced infantilism. It should be noted that the duration of the disease from the onset of menstrual cycle disorders to the moment of diagnosis in patients with primary amenorrhea is significantly lower.

Conclusions:

Hypogonadotropic hypogonadism is the most common (67%) clinical manifestation of pituitary insufficiency in tumors of the chiasmal-sellar region in adult patients. The main clinical manifestations of hypogonadotropic hypogonadism in tumors of the chiasmal-sellar region are: in women - disturbance of the regularity of the menstrual cycle (primary amenorrhea - 31%, secondary amenorrhea - 66%, opsomenorrhea - 3%), infertility (25%), neurovegetative (75%) and urogenital (63%) disorders; hypoplasia of the uterus and ovaries (100%);

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