CLINICAL CASE OF PREMATURE OVARIAN FAILURE IN COMBINATION WITH BLEPHAROPHIMOSIS-PTOSIS-EPICANTHUS INVERSUS DUE TO MUTATION IN FOXL2 GENE

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BACKGROUND

The FOXL2 gene located on chromosome 3q22.3, and encodes FOXL2 protein. This protein transcriptionally modulates genetic programs required for early eyelid and ovary development and differentiation. Autosomal dominant mutations of the FOXL2 gene is a cause of Blepharophimosis-ptosis-epicanthus inversus syndrome (BPES). Depending on the occurrence of premature ovarian failure (POF), there are two types of BPES in females: type I with POF, type II - with normal ovarian function

METHOD

FOXL2 gene was analysed by Sanger sequencing

RESULTS

Heterozygous mutation c.264delC p.R89fsX149 in the first exon.

CONCLUSIONS

A clinical case of a patient with a FOXL2 gene mutation has been described. Considering the rarity of this disease, it is necessary to conduct a hormonal study for women with eyelid pathology, as well as conduct a molecular genetic study for those, who have a combination of ovarian insufficiency with palpebral pathology to determine the further follow-up of these patients when planning pregnancy.

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CLINICAL CASE DESCRIPTION

Patient: *girl, 14 years 6 months old, complained of irregular menstrual cycle.*

Clinical examination: *sexual development Tanner 4, Me at 13 years old, 3 menses, with a last delay up to 8 months. Single terminal hairs along the white line of the abdomen, areola. The patient had epicanthus and narrowed eye slits of different sizes. She was operated on for congenital blepharophimosis in infancy. No one has similar problems in the family.*

The results of hormonal examination *are presented in the table.*

Pelvic organs ultrasound: *endometrial thickness is 0.8 cm, yellow body cyst of the right ovary were revealed (echographic signs of a fluid formation with a diameter of 3.0 cm in the right ovary).*

During the inpatient examination the girl underwent the ***trial therapy with dydrogesterone*** *(Duphaston). According to hormonal studies, provided on the 4th day of the menstrual cycle, hypergonadotropic hypogonadism is revealed (the results are in the table).*

Pelvic organs ultrasound showed normalization of the ovarian volume, follicle persistence in the right ovary (left ovary volume 4.51 ml, right ovary volume 5.84 ml, endometrial thickness 0.45 cm).

The patient was recommended with a combined oral contraceptive therapy (ethinyl estradiol + desogestrel), which the girl's mother refused.

Medical examination after 3 months without treatmen*t revealed hypergonadotropic hypogonadism (the results of hormonal examination are presented in the table). The measured level of antimullerian hormone was low.*

Considering the combination of blepharophimosis, hypergonadotropic hypogonadism, a defect in the FOXL2 gene was suspected. The girl underwent the molecular-genetic research.

	First visit	*After dydrogesterone*	After 3 months without treatment
LH, U/l	4,7	11,2	36
FSH, U/l	3,2	14,9	98
Estradiol, pmol/l	139	69,5	56
Testosterone, nmol/l	1,3		
DHEA-S, μmol/l	4,8		
Antimullerian hormone, ng/ml			0,9 (1,1-7,8)