(FC-02)

Six 11-Beta Hydroxylase Deficiency Patients: Identification of Two Novel Mutations

Hüseyin Onay[1], Esra Işık[2], Samim Özen[3], Ayşe Nur Kavasoğlu[1], Ilgın Yıldırım Şimşir[4], Tahir Atik[2], Banu Şarer Yürekli[4], Hazal Yavuz[1], İbrahim Başol[1], Şükran Darcan[3], Ferda Özkınay[2]

[1]*Ege University Faculty of Medicine, Department of Medical Genetics, İzmir, Turkey*

[2]*Ege University Faculty of Medicine, Division of Pediatric Genetics, İzmir, Turkey*

[3]*Ege University Faculty of Medicine, Division of Pediatric Endocrinology, İzmir, Turkey*

[4]*Ege University Faculty of Medicine, Department of Endocrinology, İzmir, Turkey*

In this study, we aimed to define the molecular spectrum of *CYP11B1* gene mutations in 6 Turkish patients and to evaluate the phenotype-genotype correlation.

In patients who were considered to have 11-beta hydroxylase deficiency by Endocrinology Department and Pediatric Endocrinology Department, *CYP11B1* gene sequence analysis using a next-generation sequencing platform was performed in Medical Genetics Department, Faculty of Medicine, Ege University. Mutations detected were then confirmed by Sanger sequencing method.

In this study, 7 different *CYP11B1* gene mutations were detected in 6 patients who were referred to molecular analysis due to sex development disorder. Four patients carried the same mutation on both alleles, whereas 2 patients were compound heterozygous. Cardinal phenotypic features of the patients were ambiguous genitalia, hypertension, hypokalemia, and gynecomastia. Two of the 7 mutations were detected for the first time in this study. These were p.R120G and p.A199P mutations.

In cases presenting with adrenogenital syndrome, if their endocrine test results are consistent with 11-beta hydroxylase deficiency, molecular analysis should be performed.

(FC-03)

17-Hydroxylase Deficiency: Rare Cause of Delayed Puberty

Ayla Güven[1,2], Tülay Güran[3], Nils Krone[3]

[1]*Göztepe Training and Research Hospital, Clinic of Pediatrics, İstanbul, Turkey*

[2]*Amasya University Faculty of Medicine, Department of Pediatrics, Amasya, Turkey*

[3]*Birmingham University, London, UK*

17-hydroxylase deficiency (17OHD) is a very rare disorder characterized by glucocorticoid deficiency, hypergonadotropic hypogonadism, hypertension, and hypopotassemia. Mutations in the *CYP17A1* gene cause 17OHD. Herein, we present three adolescents, one single and two cousins, with delayed puberty.

The patients were raised as girls. All of the patients were pre-pubertal. Initial clinical findings are given in the Table 1. Hydrocortisone, 17-beta estradiol, and antihypertensive treatments were initiated. First case achieved Tanner 5 breast development at 15.64 and had menarche at 15.72 years old. Alendronate was started due to osteoporosis (L-L4 BMD was -3.1). Second girl achieved Tanner 5 breast development at 15.08 and had menarche at 16.64 years old. The third patient could only been followed for six months because of advance age. A known mutation in the first patient and a novel mutation in the second patient were found in the *CYP17A1* gene.

Adrenal functions as well as gonadotropins should be examined in adolescent girls with no thelarche and pubarche associated with hypertension, and 17OHD should not be forgotten.

Table 1. Initial clinical findings

	Case 1	Case 2	Case 3
Karyotype	XX	XX	XY
Age, years	12.80	14.24	18.16
Height SD	-1.29	-2.10	-0.52
Weight SD	-0.96	-0.77	1.61
BP mm Hg	145/120	171/119	165/125
Follicle-stimulating hormone, mIU/mL	31.82	84.15	45.17
Luteinizing hormone, mIU/mL	11.86	26.46	35.54
Adrenocorticotropic hormone, pg/mL	140	107	99
Stim. Cortisol, ug/dL	3.46	0.76	< 1
Na, mEq/L	141	141	140
K, mEq/L	3	3.5	3.9
DOC, pmol/mL, (0.12-0.6)	11.9	2.76	2.58

Cases	Genomic	cDNA	Protein
1	g.6452G > A	c.1319G > A	p.R440H
2	g.276_280delCCCTG	c.104_108delCCCTG	p.P35Rfs*15