A PROSPECTIVE EVALUATION OF ANTHROPOMETRIC AND METABOLIC PROFILE OF PREMATURE ADRENARCHE PATIENTS

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Introduction

Premature adrenarche (PA) is defined as the appearance of pubic and/or axillary hair before 8 years in girls and 9 years in boys. We aimed to evaluate the anthropometric measures, hormonal values of children with PA at time of diagnosis, distinguishing the patients with late onset congenital adrenal hyperplasia and to analyse the components of insulin resistance, obesity, hyperlipidemia, metabolic syndrome, menstrual irregularity, hirsutism and polycystic ovary syndrome (PCOS) in PA patients older than 10 years of age.

Methods & Materials

The study included 101 girls seen with PA, in Kocaeli University Pediatric Endocrinology Clinic, until may 2014. Retrospective data of the patients was recorded from department database. The 47 patients older than 10 years of age were invited to hospital for re-evaluation. Routine physical examination, height, weight, blood pressure, waist circumference, 12-hour fasting serum lipid levels, fasting glucose and insulin levels, oral glucose tolerance test, serum FSH,LH, DHEAS, total testosterone, 17-OH progesterone and pelvic ultrasonography were performed

Results

Mean age at diagnosis was 7,82 ± 1,1 years and mean age ot onset of symptoms was 6,73±0,91 years. Small for gestational age (SGA) birth was detected in 9,4 % and late onset congenital adrenal hyperplasia in 4%. Body mass index was > 1 SDS in 25 % and bone age was advanced 35,6% of patients at time of diagnosis. Idiopathic PA (DHEAS < 40 mcg/dl) was 15 %, typical PA (40-130 mcg/dl) was 68 % and exaggerated PA (130-180mcg/dl) was 17 % of patients. In children older than 10 years (prospective analysis), body mass index was >1 SDS in 19 % and PCOS 27 %. Hirsutism and PCOS were detected in 66 % and biochemical hyperandrogenemia in all patients with history of SGA. Insulin resistance was detected in % 48,9 of patients and there was no significant difference between exaggerated adrenarche and isolated adrenarche groups due obesity, insulin resistance and PCOS.

Conclusion

Premature adrenarche seems to be a benign condition but leads to insulin resistance, hirsutism and PCOS, especially in patients with history of SGA.