Evaluation of Clinical, Laboratory and Radiological Findings in the Differential Diagnosis of Premature Telarche and Central Puberty Precocious

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INTRODUCTION

Central puberty precocious (CPP) is defined as the development of secondary sex characters due to the activation of the hypothalamus-pituitary-gonad axis before the age of eight in girls. Premature telarche (PT) is defined as isolated breast development in girls without other findings of puberty. CPP cases should be distinguished from PT in order to start treatment and gain enough height.

AIM

This study aimed to evaluate clinical, laboratory and radiological findings used in differential diagnosis of PT and CPP.

METHOD

The study included girls accompained of breast development before age of 8 and diagnosed with CPP or PT. Patients' calendar age, bone age, bone age/calendar age ratio, anthropometric variables, puberty stages, LH, FSH and Estrodiol levels, ovarian and uterine volumes were examined retrospectively. Cases diagnosed as PT initially and determined CPP criteries were not included.

RESULTS

The study included sixty-five girls 53.8 % PT (n=35) and 46.2% CPP (n=30).

Median puberty stage was 2(2-3) in both groups, non of PT cases revealed pubic or axillary hair growth. 36,6% (n=11) of CPP cases revealed pubic hairs and 26,6 % (n=8) axillary hairs. No statistical differences determined in puberty stages between two groups (p=0,385)

Height SD values (p=0.008), basal LH, FSH and estrodiol levels (p=0.029, p=0.008, p=0.011, respectively), right and left ovaries and uterine volumes (p= 0.030, p=0.008, p=0.039 respectively) bone age (p=0.039), and bone age/calendar age ratios (p=0.024) were found different between two groups.

All of the PT cases (n=35) applied complaining breast expansion. 73,3% (n=22) of CPP cases complained of breast expansion, 16,7% (n=5) complained of pubic hair growth, 6,7% (n=2) of pubic and axillary hair growth,3,3% (n=1) complained of breast expansion and pubic hair growth. Statistically significant difference detected between two groups according to initial complaints (p=0,001)

Importance squences of parameters used in differential diagnosis of PT and CPP was determined via logistic regretion analysis. Importance sequence is find as basal LH levels, ovarian volüme, height SD value and estradiol levels.

CONCLUSIONS

In our study we determined that CPP cases were taller, had higher plasma LH, FSH and estraidol levels, higher ovarian and endometrial volumes, older bone ages and higher bone/calendar age ratios comparing with PT contemporaries, and most important parameter in differential diagnosis was basal LH levels.

CONCLUSIONS

Besides; it should be keep in mind that laboratory findings are supportive variables and should be evaluated with clinical findings. So that, patients will be prevented from early epiphiseal closure due to sex steroids and shorter final adult height by early diagnosis and treatment and children would avoid physicosocial disorders which may become because of contemporarily unsuitable pubertal development.

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