



Is Prematüre Adrenarch Associated With Precocious Puberty Via Kisspeptin?



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Aim:

Premature pubarche is defined as the start of axillary and pubic hair before age 9 in boys and 8 in girls. 10 times more common in girls than boys. Central precocious puberty is a condition due to early activation of hypothalamic-pituitary- gonadal axis associated. Despite this axis is not known exactly which hormones are responsible for the activation, the kisspeptin's role as a trigger factor has been demonstrated in many studies. The aim of this study is to check if gonadal axis is affected in cases with premature adrenarche and to evaluate the role of kisspeptin which is the first hormon to be increased during premature puberty.

Method:

Girls with <8 years of age were enrolled in our study. Seventeen patients diagnosed with premature pubarche, 20 patients with central precocious puberty and 20 healthy age-matched girls were included into the study. Basal LH,FSH, E2, adrenal androgens and kisspeptin levels were measured in each group and LHRH test was performed.

Results:

Plasma kisspeptin level in the premature pubarche group (209.4±56 pg/ml) was higher than the level in central precocious puberty group (122.1±51 pg/ml) and the control group (143±51 pg/ml) (p<0.001). Estrogen levels were negatively correlated with kisspeptin levels. There was a positive correlation between the peak LH/FSH ratio and kisspeptin levels in central precocious puberty group.

Table 1: Comparison of kisspeptin levels between cases

	Kisspeptin(pg/ml) ort±SD
CPP	122,1±51 (a)
PP	209,4±56 (b)
C	143±51 (a)
p	<0,001

Table 2: Distribution of patients according to diagnosis

Groups	n / %
CPP	20 / 35.1
PP	17 / 29.8
C	20 / 35.1

(..): The difference between those who did not carry the same letter was significant. CPP:Central Puberty Precocious, PP:Premature Pubarche C: Control

Discussion:

The mean value of estrogen in central puberty precocious group was significantly higher than the other groups and the high estrogen level may be responsible for the decreased level of kisspeptin. The positive correlation between peak LH/FSH ratio and kisspeptin level shows the importance of Kisspeptin/GPR54 signaling system in the onset of puberty.