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Serum Neurokinin B Level can be Used to Differentiate Central Precocious Puberty from Premature Thelarche

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Background: Neurokinin B and kisspeptin appear to play main roles in puberty. **Aims and objectives:** The aim of the present study was to investigate the diagnostic role of kisspeptin and neurokinin B in central precocious puberty (CPP) and premature thelarche (PT). **Methods:** The girls who presented with breast development (between 5 and 8 years) were included in the study. All cases underwent bone age (BA) assesment. Basal serum FSH, LH and E2 and peak FSH, LH were measured after GnRH test. Patients who had peak LH >5 mIU/ml and a bone age/chronological age (CA) ratio >1 were diagnosed as CPP, while cases who did not have these criteria were as PT. Organic pathologies were excluded. Healthy, similar age prepubertal girls were included as control group. Neurokinin B and kisspeptin levels were measured by ELISA method. **Results:** The study included 25 CPP (7±0.8 years), 35 PT (6.8±0.7 years) and 30 controls (6.7±0.7 years). BA, BA/CA ratio, basal LH, peak LH were significantly different between CPP and PT groups (P<0.05). Serum kisspeptin and neurokinin B levels were detected as (2.36±0.47 pg/ml and 2.61±0.32 ng/ml) in CPP, (2.23±0.43 pg/ml and 2.24±0.23 ng/ml) in PT and (1.92±0.33 pg/ml and 2.03±0.24 ng/ml) in controls. Kisspeptin and neurokinin B levels were significantly higher in CPP and PT group compared to controls (P<0.05). While neurokinin B level was significantly different between CPP and PT groups (P<0.01), no significant difference was found in kisspeptin level. Neurokinin B value of 2.42 ng/ml provided the most appropriate level with a sensitivity of 84% and specificity 77.1% differantial diagnosis of CPP and PT. **Conclusions:** Increased serum levels of kisspeptin and neurokinin B in patient with PT and CPP suggest that they play role during the initiation of puberty. Neurokinin B could be used to differentiate with CPP from PT.

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Aetiological Spectrum and Clinical Characteristics of 129 Children with Gonadotropin Independent Precocious Puberty: A Nationwide Cohort Study

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Background: Gonadotropin independent precocious puberty (GIPP) is caused by a heterogenous group of disorders. With the exception of congenital adrenal hyperplasia (CAH), disorders causing GIPP are uncommon, and there are no studies evaluating the etiologic distribution of GIPP in a large cohort. **Objective and hypotheses:** To find out the relative frequencies of each etiological group in patients with non-CAH GIPP and also to evaluate the clinical and laboratory features of these patients.

Table 1. Aetiological spectrum, clinical and laboratory features of each diagnostic group. (for abstract P1-112)

Diagnosis	Ovarian cyst	McCune Albright Syndrome	Testotoxicosis	Hypothyroidism	Adrenocortical tumor	HCG secreting tumor	Leydig cell tumor	Ovarian tumor	Sertoli cell tumor	Undetermined
Patient Number (%)	47 (37%)	34 (26%)	5 (4%)	7 (5.5%)	12 (9%)	7 (5.5%)	5 (4%)	5 (4%)	3 (2%)	4 (3%)
Sex F/M	47/0	34/0	0/5	5/2	7/5	0/5	0/5	5/0	0/3	4/0
Mean Age at diagnosis (year)	5.4 (0.4-10.1)	5.2 (0.8-9.6)	4.1 (1.4-8.3)	6.8 (2.8-9.6)	3.4 (0.8-7.7)	7 (0.3-10.6)	6.1 (4.6-8.8)	7.3 (4-11.3)	6.1 (4.6-7.2)	4.3 (3.3-6.5)
Height SDS	0.55 (-1.72/3.11)	0.76 (-4.01/5.97)	3.06 (0.9/6.26)	-0.76 (-4.47/2.88)	0.91 (-1.54/3.66)	1.1 (-0.18/4.68)	1.69 (-0.41/3.96)	-0.11 (-0.66/1.02)	0.9 (0.03/1.4)	1.18 (0.5/1.73)
BA-CA (year)	0.6	1.6	3.1	-1.7	2	2.2	4.1	1.6	0.6	3
Basal FSH (mIU/ml)	0.6 (0.01-3.6)	0.7 (0.01-3.1)	0.4 (0.05-1.03)	4 (0.3-11.7)	0.3 (0.09-0.7)	0.2 (0.05-0.6)	0.5 (0.1-0.8)	1.5 (0.1-4.8)	0.12 (0.1-0.2)	0.2 (0-0.7)
Basal LH (mIU/ml)	0.1 (0-0.72)	0.1 (0-0.65)	0.1 (0.07-0.2)	0.1 (0-0.23)	0.1 (0-0.6)	0.1 (0.01-0.2)	0.2 (0.1-0.2)	1 (0.1-4.8)	0.08 (0.05-0.1)	0.06 (0.01-0.2)
E2 (pg/ml)	211 (6.2-879)	193.5 (5-2792)		80.5 (40.7-163.7)	25 (10-73.9)		20 (28-48)	29 (9-48)		74.6 (30-170.4)
Peak LH (mIU/ml)	0.6 (0.07-4.9)	0.9 (0-5.1)	1.83 (0.4-2.7)							
Peak FSH (mIU/ml)	2.1 (0.2-8.7)	3.8 (0.1-16.6)	4.4 (1-6.7)							
Testosterone (ng/ml)			15.6 (2.6-32)	0.5 (0.2-0.84)	4.3 (1.08-8.79)	10.9 (0.1-23.9)	4.7 (0.9-1.6)	1.7 (0.1-4.4)	0.1 (0.03-0.2)	
DHEAS (ng/ml)					827 (30-1543)		77.9 (21.8-152)			

*Values are given as mean (range).