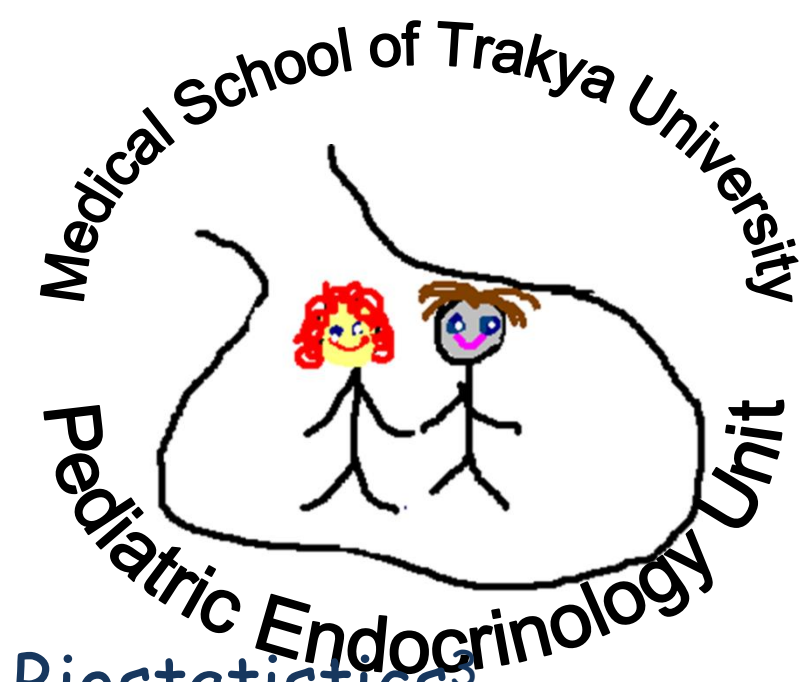




Causes of Precocious Puberty in Children Referred to an Endocrine Unit in Northwest of Turkey



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Introduction: Although data from developed countries about precocious puberty (PP) are abundant, data from developing countries are scarce. The aim of our study was to analyze the frequency of the variants of PP in children who had applied to our department.

Patients and Methods: Retrospective analysis of 367 children (18 boys and 349 girls) with features of PP referred for evaluation to our clinic between the years 2006-2012 was performed.

Results: Premature telarche (PT), a benign variant of puberty, was diagnosed in 117 (31.9%) girls and premature adrenarche (PA) was diagnosed in 112 (30.5%) children (8 boys, 104 girls). Central precocious puberty (CPP) was diagnosed in 127 (34.6%) children (6 boys and 121 girls). Of the patients with CPP, 95.3% (121 patients; 6 boys and 115 girls) were diagnosed as idiopathic. Organic causes for CPP were detected in only 6 (4.7%) girls. Peripheral precocious puberty (PPP) was diagnosed in 11 (3%) children (4 boys and 7 girls). Congenital adrenal hyperplasia (CAH) was diagnosed in 4 girls and 2 boys and McCune Albright syndrome in 3 girls. The other causes of the PPP were diagnosed as testis tumour (1 patient) and adrenal tumour (1 patient). Clinical features and distribution of the etiologies of cases with PP are shown in table 1 and gender distribution is also shown in figure 1.

Table 1. Clinical features and distribution of the etiologies of the cases with precocious puberty

Clinical features	CPP (n=127; 34.6%)		PT (n=11; 31.9%)	PPP (n=11; 3%)		PA (n=112; 30.5%)	
	Girl	Boy	Girl	Girl	Boy	Girl	Boy
n	121	6	117	7	4	104	8
Age (year)	8,3±1,4	8,5±1,3	3,9±2,8	7,3±2,2		7±1,2	
Weight (kg)	32,2±8,2	35,3±3,8	16,9±8,9	29,8±12,9		28,5±6,9	
Weight SDS	0,9±1,2	1,5±1,2	-0,09±1,2	0,7±1,6		1±1,3	
Height (cm)	132,6±10,4	136,2±5	99,5±23,4	126,2±17,6		125,7±10	
Height SDS	0,9±1,1	1,1±0,8	0,3±1,1	0,9±1,4		0,9±1	
BMI SDS	1±1,5	1,6±1	-0,4±1,5	0,5±1,4		0,9±1,6	
Over weight/ obese %	51,2	66,7	17,1	36,4		51	
Bone age	9,6±1,8	9,5±1,6	4±3	9,6±3,8		7,6±1,6	
Etiology	%95,1 Idiopathic %1,6 Hamartoma %0,8 Tuberous sclerosis %0,8 Astrocitoma %0,8 Meningomyelocele %0,8 Traumatic brain injury	%100 Idiopathic		%57,2 CAH %42,8 MAS	%50 CAH %25 Testis tm %25 Adrenal tm	%3,9 CAH	%25 CAH

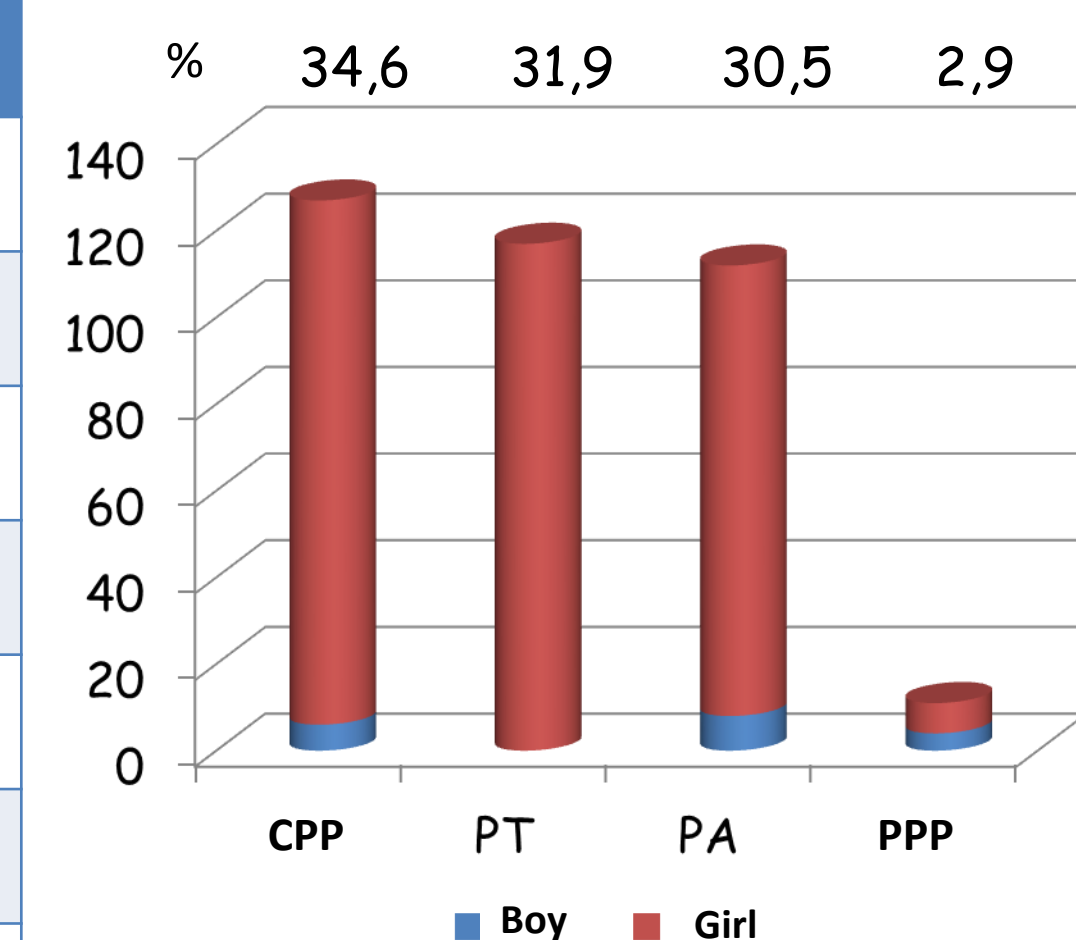


Figure 1. Gender distribution of the cases with PP

- Antropometric parameters and bone age were significantly smaller in girls with PT than in girls with CPP (p<0.001)
- The majority of the CPP cases were idiopathic and unexpectedly, all the cases with organic CPP were female.
- The most frequent underlying cause of the early pubic hair development was PA in the girls, whereas CAH was important cause in the boys.
- PPP was the least common cause of PP. The most common cause of PPP was CAH, followed by MAS.

Conclusion: The results of this study indicated that the most cases of PP are affected with CPP especially with idiopathic form of it, followed by PT. CAH is one of the most frequent cause of PPP in our population as expected.