Effect of the Treatment of Central Precocious Puberty on the Anthropometric Measurements, Comparison Between the Leuprolide Acetate (LA) and Triptorelin Depot (TD)

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Objectives:
The GnRH-agonists are the drugs of choice for therapy of idiopathic central precocious puberty (ICPP). To assess two different GnRH-agonist (LA vs TD) treatment effects on anthropometric measurements.

Methods:
74 girls with ICPP (mean age 33.8±8 years) were included in the study. Complaints had been begun before 8 years old.
50 girls underwent GnRH stimulation test.
58 girls with ICPP were followed up 18 months.
Children were treated with LA (n:42) or TD (n:32) 3.75 mg/q4wk.
The dose had to be increased 7.5 mg/q4 wk in 15 patients.
Hormonal data, and height, weight, BMI and growth velocity (GV also) of the children with ICPP were recorded before (PRE) and during the therapy.

Results:
Pelvic ultrasound findings and basal hormone levels were given in Table 1. At the admission thelarche was a major complaint (60/74) and 9 girls had menarche. Bone age (BA) (LA:10.4±1.9 years vs TD: 9.1±1.8 years) and peak LH (LA: 14.8 (19.37) IU/mL vs TD: 8.56 (8.2) IU/mL) was significantly different in both groups. Left ovarian volumes [LA:2.0 (2.92) mL vs TD: 1.71(1.81), p:0.03] were significantly different in both groups. GV at 6th was significantly different from GV at 12th months of the therapy in both groups (Figure1). BMI gradually increased after 6th, months of therapy (Figure2).

GnRHa dose was significantly correlated with BMI at during therapy in LA group.

Conclusions:
An initial dose of both GnRHa 3.75 mg/4 wk was efficient in most girls with ICPP. If this dose would be increased, patients would have a tendency having increased BMI. Clinicians should be alert of obesity risk in children treated with GnRHa.