

## The Changes of Body Fat and Metabolic Parameters during GnRHa treatment in Central Precocious Puberty or Early and Fast Puberty Girls

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### OBJECTIVES

Estrogen has positive effect to glucose and lipid metabolism. On the contrary, leptin has negative effect to metabolism. During GnRHa treatment, the secretion of estrogen was suppressed and its effect will fade away.

To observe the changes of body fat and metabolic parameters of central precocious puberty (CPP) or early and fast puberty (EFP) girls who treated with Gonadotropin-releasing hormone analogs (GnRHa).

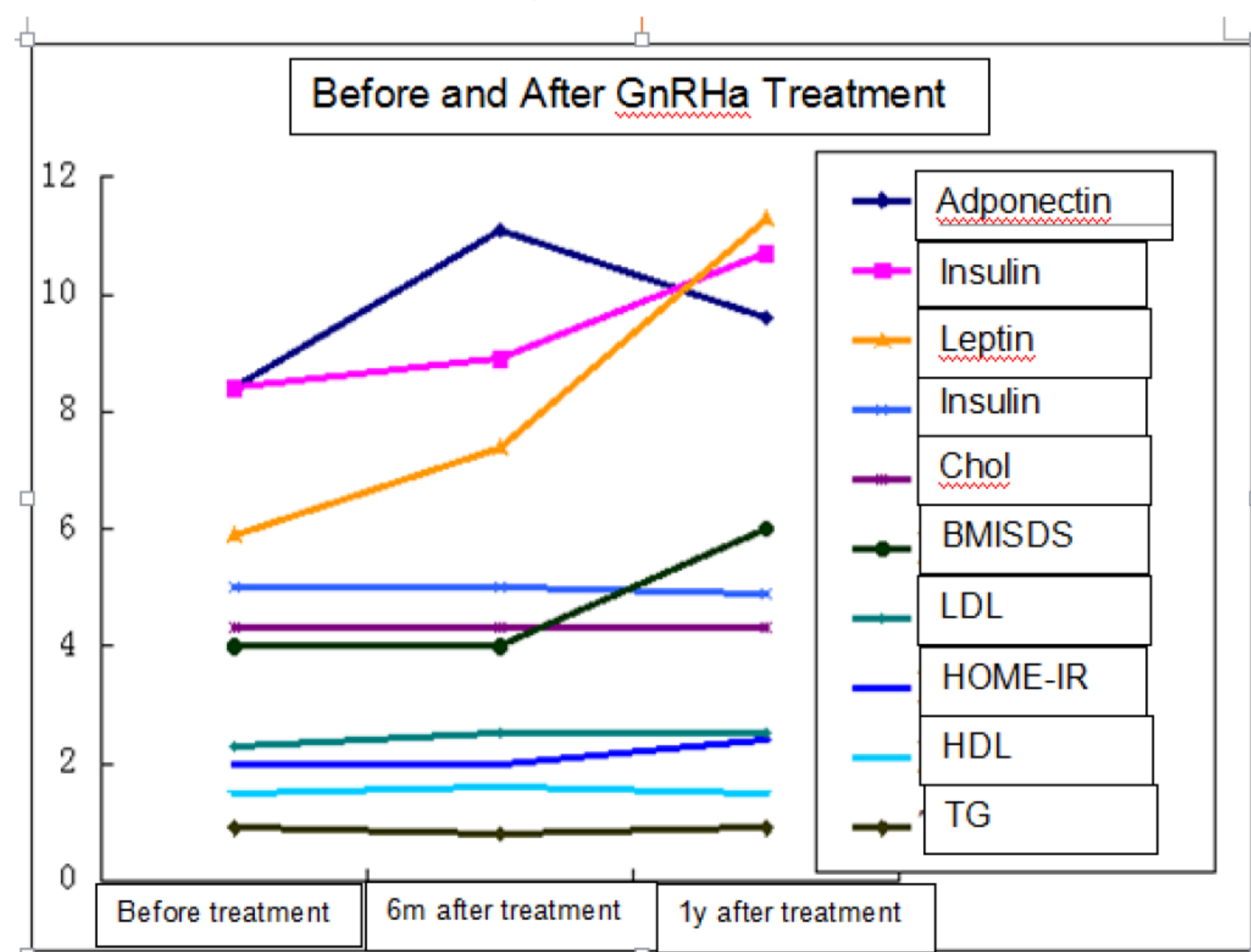
### METHODS

Forty-one girls ( 25 CPP and 16 EFP) , who treated with GnRHa for one year, were enrolled in our perspective study. BMI, body fat parameters (measure by ultrasound and body composition analyzer), serum lipid (Chol, TG, HDL and LDL), glucose metabolism (Fast blood glucose, Insulin, HOMA-IR), and adipokine (Lepin, Adiponectin) were obtained before treatment, after 6 months and 12 months of treatment.

### RESULTS

Compare with data when GnRHa treatment, BMI and leptin, adiponectin started were significantly elevated after 6 months of treatment. After 12 months of treatment, the minimal thickness of the subcutaneous fat, BMI, BMISDS, Leptin and insulin were significantly elevated compared with those at start and at 6 months. Fast blood glucose, HOMA-IR, Chol, TG, HDL and LDL didn't change significantly after 6 or 12 months of treatment.

Graphs and tables



### CONCLUSIONS

During GnRHa treatment in CPP and EFP, BMI, subcutaneous fat and insulin were elevated. It probably due to the withdrawal of estrogen and its positive regulation effect to the metabolism faded away, while leptin was not affected by GnRHa and still rised with development. So that leptin's negative effect to metabolism played a predominant role.

### References

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