



Circulating IGF-1, MKRN3, and kisspeptin in girls during the onset of puberty

- After ten years old girl, the level of MKRN3 declined in HPGA initiated group and there is a negative correlation between MKRN3 and E2, MKRN3 and basal LH. So we speculate that there is no overall difference in the level of MKRN3 at the onset of puberty, and that the common threshold will appear after 10 years of age.
- There is statistically differences in the level of kisspeptin among the CPP, RPP, PT and control group, and the older the bone age at the first visit, the higher the kisspeptin level in HPGA initiation patients, also, there is positive correlation between kisspeptin level and height, weight, bone age, and hormones, especially in peak LH level and the ratio of peak LH and FSH. So we speculated that kisspeptin plays an important role in the initiation of HPGA.
- There were statistically differences in the level of IGF-1 among the four groups of CPP, RPP, PT and control groups, and the level of IGF-1 in the HPGA initiated group was significantly higher than that in the HPGA non-initiated group. Positive correlation of IGF-1 supports the role of IGF-1 in the initiation of puberty. ROC Curve indicated that the IGF-1 had certain diagnostic value for the identification of HPGA initiation. At IGF-1 level of 304ng/ml, the Youden index reached the peak value (0.661), and the sensitivity and specificity were 0.750 and 0.911 respectively. So we speculate that IGF-1 plays a important role in the initiation of HPGA. In addition, IGF-1 has a certain diagnostic value in the differential diagnosis of puberty initiation at different age levels.

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