



POSTER PRESENTATION

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Variants of 11 β -hydroxysteroid dehydrogenase (*HSD11B*) gene type 1 and 2 in Chinese obese adolescents

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Objective

To investigate the relationship between 11 β -hydroxysteroid dehydrogenase (*HSD11B*) gene type 1 and 2 and obesity in Chinese child.

Methods

A total of 400 obese and 200 healthy adolescents were enrolled as obese and control groups. Seven tagged SNPs in *HSD11B1* (rs4393158, rs2235543, rs10082248, rs10863782, rs2236903, rs2298930, rs4545339) and 4 variants in *HSD11B2* gene (rs28934592, rs28934591, rs28934594 and rs28934593) were measured by automated platform MassArray.

Results

The rs28934592 in *HSD11B2* and rs10863782 in *HSD11B1* were excluded as false positive or HWE $P < 0.05$. Moreover, one allele type was found in the other 3 locations of *HSD11B2*. The minor allele frequency of rs2235543 and rs10082248 were higher in patients than these in controls ($P = 0.045$, $P = 0.041$, respectively). The rs10082248, rs2298930 and rs4545339 were associated with the risk of obesity in the recessive model ($P < 0.05$, respectively). Moreover, the total cholesterol in patients with GG or AG genotype was significantly higher than that in patients with AA genotype in rs10082248. The rs4393158 was associated with the hypertension in log-additive model test ($P = 0.037$), and glucose abnormal and hypercholesteremia in dominant model test ($P < 0.05$, respectively), while the rs2235543 was associated with hypercholesteremia in over-dominant model test ($P = 0.017$).

Conclusion

The polymorphism of *HSD11B1* may be a cause of childhood obesity, or even associated with the complication of childhood obesity. However, variants of *HSD11B2* may be not a cause of obesity.

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