Serum uric acid and its correlation with metabolic syndrome factors in simple obesity children

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【**Objective**】To study the relationship between serum uric acid(SUA) and metabolic syndrome(MS) factors in simple obesity children.

【**Method**】Data of 72 simple obesity children and 30 age-and sex-matched children with normal body mass index(BMI) were studied. Anthropometrics, SUA, lipid profiles, glucose and insulin concentration were determined. The differences of parameters between these two groups and the correlations of SUA with other parameters were analyzed. Multiple stepwise regression analysis was done to study the parameters affecting SUA.

【**Result**】1. Compared with 30 normal controls, the waist circumference(WC) (81.53±14.80，p=0.00), waist and height ratio（0.74±0.44，p=0.00）, systolic blood pressure(SBP)（115.44±14.62，p=0.00）, diastolic blood pressure(DBP)（75.00±9.40，p=0.01）serum triglyceride(TG)（1.59±1.20，p=0.02）, non-high density lipoprotein cholesterol (non-HDL)（3.36±0.85，p=0.02）, SUA（413.32±114.69，p=0.00）were higher while high density lipoprotein(HDL-C)（1.21±0.27，p=0.00） was lower in simple obesity children, and total cholesterol(CHOL), fasting blood-glucose(IFG) was no difference.

2.The detection rate of hyperuricemia(HUA) in obese children(37.50%) was significantly higher than that in normal controls(10.00%), and the detection rate of HUA in MS(55.00%) was higher than without MS(32.00%) in obese children.

3. The SUA concentration was positively correlated with weight(0.535, p=0.00), height(0.511, p=0.00), BMI(0.399, p=0.01), SBP(0.434, p=0.00), DBP(0.381, p=0.0), homeostasis model of insulin resistance (HOMA-IR)(0.248, p=0.038), and negatively correlated with HDL-C(-0.264, p=0.027) in simple obesity children.

【**Conclusion**】Expect for changes of BP, serum lipids and glucose, purine metabolic disorders were also found in children with MS. HUA was associated with BMI, BP, HDL-C, HOMA-IR. HUA could be one of the risks in the development of MS.

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