DECREASED SERUM ADIPOINTEGRIN LEVEL IN OBESE CHILDREN

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Aim: To determine whether serum adiponectin, which is one of the physiologically active gene products secreted from adipose tissue, is decreased in obese children.

Method: Subjects were 36 consecutive outpatients Japanese obese children, 20 boys and 16 girls, ranging in age from 5 to 14 years, and 24 age-matched nonobese children, 14 boys and 10 girls, as the control group for measuring adiponectin. Blood was drawn after an overnight fast and, at the same time, the obese children were subjected to anthropometric measurements including height, body weight, waist girth, hip girth, and triceps and subscapular skinfold thicknesses. Serum adiponectin was assayed by an enzyme-linked immunoassay kit (Chugai Diagnostic Sciences Co.).

Results: Serum adiponectin level was lower (6.5 ± 0.7 vs. 10.4 ± 1.0 mg/L, mean ± S.E.M., p=0.003) in the obese children than in the controls. In 15 obese children, whose percent overweight declined during therapy, the adiponectin level increased (from 5.5 to 7.0 mg/L, p<0.005). The adiponectin level was correlated inversely with visceral adipose tissue area in obese children. The relationships between adiponectin and other blood biochemistry data were not significant, after being adjusted for either waist girth or body weight.

Discussion and Conclusion: Serum adiponectin level is decreased in obese children depending on the increase in visceral adipose tissue and is restored toward normal level by reducing the degree of obesity.

Sleep apnea in children with achondroplasia and other craniofacial anomalies

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[Introduction]
Sleep apneas are often serious problems in children with craniofacial anomalies. Sleep apnea is usually obstructive due to anomalous anatomic in the upper airway, but occasionally of central origin as seen in achondroplasia.

[Motivations & Methods]
Polysomnographic study (PSG) was performed in 18 children with craniofacial anomalies aged 18 years and under, and the results were compared with those in 37 children without craniofacial anomalies who were suspected to have sleep apneas. The cases with craniofacial anomalies consisted of 9 Achondroplastics, 4 Crissianus, 3 Apert, 2 Treacher Collins, 2 Goldenhar and others. PSG was recorded at least twice using Allis 3 (Chios) and the management was decided with reference to our sleep apneas scale on Apeaps frequency, SPO2, ECGs, and behavior pattern.

[Results & Discussion]
Obstructive apneas was more frequent and serious in children with anomalies and some had central or mixed apneas. Following treatments were done, tonsil & adenoidectomy (8), craniofacial plastic surgery (3), home Oxygen or CPAP therapy (5) and so on. Compared with children without anomalies, the improvements of sleep apnea were less dramatic and multidisciplinary approaches were needed.

[Conclusion]
PSG was thought to be essential for the management of sleep apnea in children in association with craniofacial anomalies.