

## The Relation of Serum Lipid Profiles to Overweight among Children in Gangneung Area

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**Objective:** Atherosclerosis might progress from early life stage if the person is at high risk. Dyslipidemia, one of the most important cardiovascular risk factors, has increased among children in recent years in South Korea. The aim of this study was to evaluate the prevalence of dyslipidemia, and to investigate the relation of serum lipid profiles to overweight among children in Gangneung area.

**Methods:** The study subjects were recruited from an elementary school in Gangneung area. Anthropometric measurements were examined in 1366 children aged 6~12 years (741 boys; 625 girls). The nutrient intake of both the children and their parents was assessed by validated food frequency questionnaire written by their parents. Total cholesterol, triglyceride, and HDL-cholesterol were measured in fasting state in 747 children (404 boys; 343 girls) among them.

**Results:** The prevalence of overweight defined as BMI  $\geq$  85 percentile by gender and age was 10.3% in boys and 9.7% in girls. The prevalence of total cholesterol  $\geq$  200 mg, triglyceride  $\geq$  130 mg, LDL-C  $\geq$  130 mg, HDL-C  $<$  35 mg/dl, and TC/HDL-C(AI)  $\geq$  4 among 747 children were 13.7%, 18.1%, 7.6%, 2.4%, and 9.1%, respectively. The odds ratio for hypertriglyceridemia, and high AI in overweight children were 2.4 (1.1~5.1) and 4.0 (1.3~12.3) with adjustment for age and nutrient intake.

**Conclusion:** The prevalence of serum lipid abnormalities among children in Gangneung area was relatively high. Hypertriglyceridemia rather than hypercholesterolemia was more common, and independently associated with overweight.

**Key words:** lipid profiles, overweight, children, Gangneung