

# Abstract

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## Alterations in lipid profile of autistic boys: a case control study.

Kim EK, Neggers YH, Shin CS, Kim E, Kim EM.

Department of Food Science, Gangneung-Wonju National University, Gangwon-do, Korea.

**OBJECTIVE:** We hypothesize that autism is associated with alterations in the plasma lipid profile and that some lipid fractions in autistic boys may be significantly different than those of healthy boys.

**METHODS:** A matched case control study was conducted with 29 autistic boys (mean age, 10.1 +/- 1.3 years) recruited from a school for disabled children and 29 comparable healthy boys from a neighboring elementary school in South Korea. Fasting plasma total cholesterol (T-Chol), triglyceride (TG), high-density lipoprotein cholesterol (HDL-C), low-density lipoprotein cholesterol (LDL-C), the LDL/HDL ratio, and 1-day food intakes were measured. Multiple regression analyses were performed to assess the association between autism and various lipid fractions.

**RESULTS:** The mean TG level (102.4 +/- 52.4 vs 70.6 +/- 36.3; P = .01) was significantly higher, whereas the mean HDL-C level (48.8 +/- 11.9 vs 60.5 +/- 10.9 mg/dL; P = .003) was significantly lower in cases as compared to controls. There was no significant difference in T-Chol and LDL-C levels between cases and controls. The LDL/HDL ratio was significantly higher in cases as compared to controls. Multiple regression analyses indicated that autism was significantly associated with plasma TG (beta = 31.7 +/- 11.9; P = .01), HDL (beta = -11.6 +/- 2.1; P = .0003), and the LDL/HDL ratio (beta = 0.40 +/- 0.18; P = .04). There was a significant interaction between autism and TG level in relation to plasma HDL level (P = .02). Fifty-three percent of variation in the plasma HDL was explained by autism, plasma TG, LDL/HDL ratio, and the interaction between autism and plasma TG level.

**CONCLUSIONS:** These results indicate the presence of dyslipidemia in boys with autism and suggest a possibility that dyslipidemia might be a marker of association between lipid metabolism and autism.

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