



Expression and clinical significance of the obesity-related gene TNFAIP9 in obese children

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ABSTRACT. To investigate the expression of tumor necrosis factor- α inducible protein 9 (TNFAIP9) gene in obese children and its clinical significance, 36 simple obese children and 17 non-obese children were recruited as research subjects. The adipose tissue was obtained by abdominal operation. The expression of TNFAIP9 was detected using real-time fluorescence quantitative polymerase chain reaction and western blot. The relationship between the expression of TNFAIP9 and blood lipid, blood glucose, and obesity indexes was analyzed. The levels of TNFAIP9 mRNA and protein in obese children were significantly lower than those in the control group ($P < 0.05$). The waist circumference (wc), body mass, body mass index (BMI), fat, total cholesterol (TC), triglyceride (TG), low-density lipoprotein cholesterol (LDL-C), insulin resistance index (HOMA-IR), and endothelin (ET) in obese children were significantly higher than those in the control group. The level of high-density lipoprotein cholesterol (HDL-C) was significantly lower than that in the control group ($P < 0.05$). The level

of TNFAIP9 protein was negatively correlated with the wc, body mass, BMI, fat, TC, TG, LDL-C, HOMA-IR, and ET ($P < 0.05$) and was positively correlated with the level of HDL-C ($P < 0.05$). In conclusion, the expression of TNFAIP9 significantly decreased in the adipose tissue of obese children, and its levels are closely related to blood lipid level, insulin resistance, and obesity.

Key words: TNFAIP9; Obese children; Lipid; Insulin resistance