

## An association between T1264G of CD 36 gene polymorphism, insulin resistance and metabolic syndrome components

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**Goal:** To study an association between T1264G of CD 36 gene polymorphism and insulin resistance (IR) and metabolic syndrome (MS) components in ethnic Kyrgyz group.

**Materials and methods:** 279 person of Kyrgyz ethnicity were included in the study (126 with MS and 153 sex and age matched controls without coronary artery disease (CAD), diabetes mellitus (DM) type 2 and MS). Measurement of blood pressure, anthropometric data (body mass index, waist circumference WC), blood glucose, lipid profile (total cholesterol, cholesterol of low and high density lipoprotein (LDL-C and HDL-C), and triglycerides (TG)) were conducted in all examined persons. Metabolic syndrome was diagnosed according to modifying ATP III criteria. In 163 immunoreactive insulin blood concentration was determined. IR was considered if the HOMA index was  $\geq 2,77$ . DNA was extracted from blood cells. T1264G of CD 36 gene polymorphism was determined by PCR methods.

**Results:** Genotype's frequency in studied group was: TT genotype-0,77, TG-0,19, GG-0,04, G allele frequency-0,13. IR was revealed in all carriers of GG genotype ( $\chi^2$ -8,0, p- 0,018). There was an association between G allele and MS ( $\chi^2$ -6,99 p- 0,03), high level of TG ( $\chi^2$ -8,58, p-0,013) and family anamnesis for CAD ( $\chi^2$ -8,02, p- 0,049). ANOVA analysis showed statistically significant differences in systolic (138 $\pm$ 24 mm Hg vs 141 $\pm$ 30 mm vs 154 $\pm$ 23 mm Hg p<0,05) and diastolic blood pressure level (87 $\pm$ 13 mm Hg vs 88 $\pm$ 13 mm Hg vs 102 $\pm$ 15 mm Hg p<0,001), TG concentration (1,4 (1,02-2,22) mmol/l vs 1,62 (1,13-2,4) mmol/l vs 2,34 (1,73-2,77) mmol/l, p<0,05), hyper TG (38,3% vs 45,3 vs 81,8% p<0,01), HOMA index (1,84 (1,07-3,6) vs 3,22 (1,6-4,0) vs 4,93 (3,76-5,79), p<0,05) and IR frequency (37,8% vs 54,2% vs 100%, p<0,005) between TT-, TG- and GG genotype carriers. Abdominal obesity (34,2%, vs 41,5% vs 63,6% p<0,05) with higher WC (94 $\pm$ 12 cm vs 95 $\pm$ 14 vs 102 $\pm$ 17 cm p<0,05), was more frequent in GG genotype group.

**Conclusion:** There was an association between T1264G of CD 36 gene polymorphism and IR, MS, hyperTG and family anamnesis for CAD. Carriers of GG genotype had also higher level of blood pressure and features of abdominal obesity.

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