

# Genetic variant increases triglyceride levels in Asian-Americans

July 17 2008

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A genetic variant found almost exclusively in individuals of Asian descent increases the risk of elevated triglycerides over four-fold, reports a comprehensive study in the August *Journal of Lipid Research*. In fact, all 11 subjects who carried both copies of this rare variant for apolipoprotein A-V had extremely high and dangerous triglyceride levels in their blood.

Apolipoprotein A-V is a recently discovered lipid-binding protein that likely plays an important role in metabolizing triglycerides. Some population studies with groups in China and Taiwan indicate that a polymorphism in the APOA5 gene (553 G>T shift) is associated with elevated plasma TG levels, which like cholesterol, increase the risk of heart disease.

To get a broader view of this potentially important gene polymorphism, Clive Pullinger and colleagues examined the frequency and impact of this variant in a population of Chinese-Americans, as well as four other Asian-American populations (Japanese, Korean, Southeast Asian, and Pacific Islander).

The researchers examined 541 individuals and found that 15.1% of Chinese-Americans with high plasma TG (>150 mg/dl) carried at least one copy of the 553T variant, compared with only 3.7% of those with normal TG levels; in non-Chinese Asians these values were 13.7% and 5.4%. When calculated, the 553T variant corresponds to a 4.4 and 2.5 times greater risk of elevated TG in Chinese-Americans and other

Asians, respectively.

The frequency became even more prevalent at higher levels; 60% of individuals with TG of >500 mg/dl carried the variant, and at 1000 mg/dl the frequency rose to 80%. And the 11 subjects who had the variant in both copies of their APOA5 gene had an average TG concentration of over 2000 mg/dl, which can pose serious health risks.

Source: American Society for Biochemistry and Molecular Biology

Citation: Genetic variant increases triglyceride levels in Asian-Americans (2008, July 17)  
retrieved 24 April 2024 from

<https://phys.org/news/2008-07-genetic-variant-triglyceride-asian-americans.html>

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