Reviewer's report

Title: Risk Interaction of Obesity, Insulin Resistance and Hormone-Sensitive Lipase Promoter Polymorphisms in the Development of Fatty Liver

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Reviewer: Yuzuru Otsuka

Reviewer's report:

The aim of this paper is to find the effect of genotype of Hormone sensitive lipase (HSL) promoter (-60 C > G) polymorphism that may affect non-alcoholic fatty liver disease (NAFLD). The paper describes association of serum triglyceride with genotype HSL promoter polymorphism (rs34845087) in 1056 male in Taiwan. Authors found genotype of (GG+GC) significantly up-regulated serum triglyceride in glucose intolerance group.

1. The official name of HSL is lipase, hormone-sensitive and official symbol is LIPE, so better to change to official name and symbol.

2. The data in the paper is limited on the association between genotype and clinical data, therefore, the Anova or t-test results grouped by genotype or (GG+GC) and GG (further grouped by GI or not) will show the effect of the genotype.

3. There are several papers describe the association of this polymorphism and triglyceride etc, but your paper did not describe the previous papers. For example, Talmud et al. (2005, Nutr Metab Card Dis 15, 31-35) and Talmnd et al. (2002, Nutr Metab Card Dis 12 173-177) showed no relation between TG and genotype. But Pilajamaki et al. (2001 Eur J Clin Invest 31, 302-308) and Sone et al. (2010, J Nutr Sci Vitaminol (Tokyo) 56, 123-131) showed the minor allele decreased TG in blood. Furthermore, knock out mice of LIPE decreased TG in blood and liver (Haemmerle 2002, JBC 277, 12946-12952). From those previous papers your result in GI group is different. So please discuss the genotype effect on clinical data in detail.

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:

Yes. My previous paper of Sone et al. (2010, J Nutr Sci Vitaminol (Tokyo) 56, 123-131) describes the same topics on LIPE (HSL) polymorphism and the result was different from this paper.