Reviewer's report

Title: Association between Variations in the Fat Mass and Obesity-Associated Gene and Pancreatic Cancer Risk: A Case-Control Study in Japan

Version: 1 Date: 23 March 2013

Reviewer: Wenqing Li

Reviewer's report:

Major compulsory revisions
1. This is a case-control study with a moderate sample size. Overweight or obese subjects were few (less than 100 in cases or control), which limited the statistical power to test the hypothesis. The results could be due to chance, so I would like to see words like "further replication in other independent samples is required" in the limitation and in the conclusion.

2. Since BMI was a major variable focused in this study, only those with information on BMI should be included in the final analyses. We typically reserve the missing data only if the variables were covariates.

3. The recruitment of cases and controls is unclear. How to interpret the response rate (85% for cases and 98% for controls)? Is this the percentage of the final included subjects divided by all the people that have been approached for attending this study? If so, please specify the numbers. Data on usual weight means the weight before this study entry or before the pancreatic cancer diagnosis? Why didn't evaluate the association with BMI at age 20 and describe the distribution of BMI at age 20? I think highly likely most subjects had BMI at age 20<25 which made further investigation impossible, right?

4. It's uncommon to show the OR in the table 1 when aiming to present the characteristics of the participants, or the authors should edit the table title.

5. This is not the first study on this topic, as the authors have refereed the MD Anderson study, although this might be the "first in Japanese", but I would not describe this as an advantage.

6. How did the authors conduct and interpret the interaction analyses? I did not see interaction between this SNP and history of diabetes (P-interaction=0.28). Among those with diabetes, the exact effect of TA/AA genotype should be 3.7/1.7=2.2. Since the number of those with diabetes is small, I would not expect any heterogeneity between this OR (2.2) and the OR in those without diabetes (1.4). If no effect modification by diabetes, the Results and Discussion section need to be revised.

7. Why precretic cancer cases were excluded if the onset of diabetes was within 2 years prior to the diagnosis of pancreatic cancer? My understanding is that there are bi-directional relationship between diabetes and pancreatic cancer,
right? Right now I only noticed the description of diabetes as a risk factor for pancreatic cancer.

Minor Essential Revisions
1. The manuscript is generally clear but further English edits would be warranted. For example, "statistically insignificant" is very odd use (not statistically significant)

2. Please specify the adjustment of covariates (continuous or categorical variable), particularly for BMI in the Statistical analysis.

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Acceptable

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

Declaration of competing interests:
I declare no conflicts of interest.