Reviewer’s report

Title: Comparative analysis of the human hepatic and adipose tissue transcriptomes during LPS-induced inflammation leads to the identification of differential biological pathways and candidate biomarkers

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Reviewer: Xiao Su

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Using DNA Microarray, Gene Oncology Analysis, and other sophisticated technology, Szalowska et al. performed the ex vivo experiments on the adipose and liver slices to analyze changes of insulin resistance (IR) related gene and protein biomarkers during LPS-induced inflammation. The authors found that adipose tissue played a major role in the development of inflammation-related IR compared to the liver. The authors also identified combination of biomarkers: MMP-1, PTX3, CX3CL1, and PAI-1 might be more specific for predicting IR than single biomarker.

Major concerns

1. In this manuscript, findings generated from the ex vivo experiments might not be perfectly applied to the clinical settings. Therefore, the clinical significance is not clear.

2. The livers were from male healthy donors (age 16-34). The adipose tissue was donated by gynecological female patients (age 30-45). Obviously, it is not appropriate to compare the findings generated from different objects in Table 1 and 2.

3. In table 1 and 2, and other figures, gene copy numbers, standard deviation, p values, and sample size in both control and experimental groups should be clearly listed.

4. Adipose tissue and liver slices were stimulated with LPS 100 ug/ml, which might not conform to pathophysiological conditions, please justify.

5. Page 11, 2nd paragraph, it seems that the experiment was done in one patient, what patient?

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

Quality of written English: Acceptable

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.