Reviewer’s report

Title: Polymorphisms of superoxid dismutases and catalase and diabetes mellitus

Version: 2 Date: 30 October 2007

Reviewer: Dimitry Chistiakov

Reviewer’s report:

General

In their report, Flekac and coauthors studied association between polymorphisms within the CAT, Mn-SOD and CuZn-SOD genes and two commonest types of diabetes (type 1 and type 2). They also reported a correlation between functional polymorphisms in SOD1 and SOD2 genes and serum SOD activity. The authors showed a clear association between the SOD polymorphisms and the development of both micro- and macroangiopathy in diabetes. The authors well designed and performed this study. The paper is relatively well written. The results are interesting and adequate. Conclusions are clear. Finally, the authors showed an important role of oxidative stress in the pathogenesis of diabetic vascular complications as well a significant contribution of genetic variations within the antioxidant enzyme genes to conferring susceptibility to diabetic angiopathy.

Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

In discussion, the authors should referer to the following articles. Chistiakov et al. (Diabetes Metab Res Rev. 2004 20(3):219-24) found a new type 1 diabetes susceptibility locus near the CAT gene in a Russian population that have not been strongly confirmed by Pask et al (Diabetes Metab Res Rev. 2006 22(5):356-60) in the UK and US population datasets. For the SOD polymorphisms, the authors are encouraged to discuss papers by Ukkola et al. (J Intern Med. 2001 249(5):451-9), Nomiyama et al. (J Hum Genet. 2003;48(3):138-41), Lee et al. (Metabolism. 2006 55(1):1-7), Lee & Choi (Metabolism. 2006 55(12):1681-8) and Nemoto et al. (Cardiovasc Diabetol. 2007 6:23). This should significantly enrich and improve the discussion.

Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

Please check the manuscript for spelling with help of a native English speaker.
Discretionary Revisions (which the author can choose to ignore)

What next?: Unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions

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

Quality of written English: Needs some language corrections before being published

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

I declare that I have no competing interests