Reviewer's report

Title: Association of liver enzymes with incident type 2 diabetes: A nested case control study in an Iranian population

Version: 1 Date: 29 November 2007

Reviewer: Barbara Thorand

Reviewer's report:

General

In their paper Tohidi et al examined the association between circulating liver enzymes including aspartate aminotransferase (AST), alanine aminotransferase (ALT) and gamma glutamyltransferase (GGT) and incident type 2 diabetes in a nested case-control study.

This is not a new research question since several groups have examined these associations before, however the authors extend the main research question by inclusion of a large number of possible confounders (anthropometric measures, systolic and diastolic blood pressure, measures of plasma glucose and insulin, triglycerides, HDL-cholesterol and C-reactive protein) and by calculation of the area under the receiver operating characteristic curve (AUC) of the logistic regression models in order to compare the predictive power of the various models.

In their very clearly and well written report the authors found that only ALT was associated with incident type 2 diabetes independent of all other examined risk factors. However, even ALT did not improve the prediction of type 2 diabetes in addition to the other examined risk factors.

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

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

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Discretionary Revisions (which the author can choose to ignore)

In the statistical analysis section the authors state that they used conditional logistic regression analysis with "backward elimination method" to calculate ORs. Further down in the manuscript it seems that they used predefined sets of risk factors or factors loads in models 1 to 4. Thus, it is not clear whether the mentioning of the "backward elimination method" is really correct.
What next?: Accept after discretionary revisions

Level of interest: An article of importance in its field

Quality of written English: Acceptable

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