Reviewer's report

Title: HLA-DQA is associated with abdominal aortic aneurysms in the Belgian population: a case control study

Version: 1 Date: 12 June 2006

Reviewer: Matthew Bown

Reviewer's report:

General

This paper is well written and covers an area that is at present poorly understood and requires further investigation. Unfortunately the outcome of this study merely adds to the many positive reports of HLA loci associated with AAA without successfully clarifying the previous work by other authors in this area.

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

There is no attempt at a sample size calculation in the study design. In the final table the authors give a list of the previous studies that have investigated HLA loci in relation to AAA. The figures from these studies could have been used to determine a rough sample size despite being based on differing populations. A larger study such as this should have been aimed at 'cleaning up' the previous literature and powered as such, taking into account the necessity of multiple hypothesis testing.

Given the large number of hypothesis tests, although it is acknowledged no correction is made for multiple hypothesis testing and this should be done.

The number of spousal controls in each of the study populations is not given (Canadian vs Belgian).

No demographics or phenotypic details about the study populations is given and would be useful (smoking history, AAA sizes etc).

Whether the controls were screened for AAA should be stated.

The authors have split their analyses by the two study populations on the basis that the total sample deviated from Hardy-Weinberg equilibrium. Whilst this appears to be valid as a separate analysis why have the overall study group results not been reported? Are the authors suggesting that the aetiology of AAA is different in Belgian and Canadian Caucasians? If so this should be covered in the discussion in detail. Does this not suggest that the marker found in the Belgian group is of relatively little significance in the pathogenesis of AAA since it is not consistent across different Caucasian populations?

There are 15 authors - is each's inclusion justified?

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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)

None

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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: Acceptable

Statistical review: No

Declaration of competing interests:
I declare that I have no competing interests