Reviewer's report

Title: HFE H63D mutation frequency shows an increase in Turkish women with breast cancer.

Version: 1 Date: 7 November 2005

Reviewer: Ronald Acton

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General
The present work extends the research of others which is aimed at assessing whether HFE mutations are associated with various types of cancer. The methods utilized are appropriate and well described. There are problems regarding how the data is presented.

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Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)
In the abstract the authors present the allele frequency of H63D in breast cancer patients compared to controls. However, in Table 2 the statistical analysis comparing breast cancer cases and controls utilizes the phenotype frequency of H63D which reveals a significant difference between the two. If the H63D allele frequencies are used to compare cases and controls I do not observe a significant difference. This is confusing. The statistical calculations should be checked and if indeed the comparison of H63D phenotype frequencies between cases and controls are significantly different whereas the allele frequencies are not then this should be stated in the text.

In the Discussion section line 6 there should be an "a" after have. This would read, "have a role".

At the beginning of the second paragraph of the Discussion a statement is made that, "To the best of our knowledge, this is the first study that shows a significant association between female breast cancer and HFE-H63D...." The recent paper by Tatiana V. Kondrashova, et al. Frequency of hemochromatosis gene (HFE) mutations in Russian healthy women and patients with estrogen-dependent cancers. Biochim Biophys Acta. 2005 Sep 23; [Epub ahead of print], should be cited.

On page 5, line 20 "the" should be inserted before HLA complex.

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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)
I suggest that that Figure 2 be replaced with a similar gel pattern that has a positive control included. Otherwise Figure 2 only shows that 4 of the patients selected were C282Y negative. Including a positive control would illustrate that the typing methodology is robust and can detect subjects who are C282Y positive.

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Discretionary Revisions (which the author can choose to ignore)
I suggest that Table 3 be placed before the present Table 2. In my view the presentation of the characteristics of the breast cancer patients before presented the statistical treatment of the data improves the flow of the paper.
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’ below.