Reviewer's report

Title: Association of genetic polymorphisms in the interleukin-10 promoter with risk of prostate cancer in Chinese

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Reviewer: Victoria Stevens

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This manuscript describes a case-control study in which the association of three SNPs in the IL-10 gene with prostate cancer risk was determined. Previous studies have found inconsistent results for this association but have not examined it in Chinese as is done in this study. None of the SNPs were associated with prostate cancer overall. However, the minor allele of each was found to be significantly associated with increased risk of advanced prostate cancer.

This is a well conducted study that provides some interesting results. However, the value of the results could be increased by providing more context to the prostate cancer cases and how they might differ from those studied in Western countries in ways other than ethnicity. For example, many more of the men in this study had advanced than early stage prostate cancer. The opposite is usually observed in case-control studies conducted in areas where PSA screening is commonly used. How were the cases diagnosed for this study? Additionally, despite repeated mention of the effects of the SNPs on IL-10 expression, no attempt was made to explain how SNP-induced changes in IL-10 expression might influence progression of prostate cancer as the authors suggest their findings indicate. Discussion of this point would strengthen the paper.

Other points that should be addressed are listed below.

Major Compulsory Revisions

1. The controls are described as having no family history of cancer. Were they selected based on this factor? If so, this could introduce bias into the study because genetic factors and family history are related and individuals without a family history of cancer are likely to be at a different risk than those with a family history of cancer. If the controls were selected this way, the analysis should be redone with a new set of controls selected without consideration of their family history of cancer.

2. As described above, information on the methods by which the cases were diagnosed should be provided.

3. Discussion of the possible mechanism(s) by which the SNP-induced change in IL-10 expression could influence prostate cancer progression should be added.

4. Because the analyses were done using unconditional logistic regression, the matching factor (age) should be controlled for in the model. Other covariates,
such as smoking, PSA screening, and diabetes status, should also be controlled for. Details of the covariates and what is included in the statistical analyses should be clearly stated.

Minor Essential Revisions
5. The authors should indicate whether the cases had any prior cancer diagnoses before their prostate cancer diagnosis.
6. A rationale for selection of the three SNPs that were studied should be provided.
7. In the second paragraph of the discussion, the TT at -819 and AA at -592 are referred to as alleles. These are genotypes. This mistake should be corrected.
8. Table 3 is referred to as Table 2 on page 4. This should also be corrected.

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

Quality of written English: Acceptable

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.