Reviewer's report

Title: Analysis of the XRCC1 gene as a modifier of the cerebral response in ischemic stroke.

Version: 2 Date: 31 July 2006

Reviewer: John Cole

Reviewer's report:

General
The study evaluates the relationships of 2 single nucleotide polymorphisms (SNPs) in the XRCC1 gene with stroke volume in 134 non-lacunar stroke patients. Following these analyses the same 2 SNPs are evaluated for association with stroke, using the same 134 cases and implementing 113 non-stroke control subjects as the comparison group. The CT genotype of the C26304T SNP was found to have a significantly larger stroke volume, as compared with the CC genotype. Neither SNP was found to be associated with stroke.

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

Overall, the study is well conceived and the manuscript is well written. The main drawback of the study is that the sample size is small. This limitation becomes particularly evident when comparing the genotype frequencies of the C26304T SNP, with only 1 case having the TT genotype. Given these genotype limitations, the authors were unable to analyze whether there is a dose type response based upon the number of T alleles. The authors excluded the one TT individual from the analyses. Interestingly, this individual had a small Mean Stroke Volume, contrary to the stated conclusion that T allele is associated with a larger stroke volume. I would agree that little can be inferred from this one individual; however, this individual should not have been excluded from the analyses. The comparison should have been CC vs. CT and TT combined, regardless of the sample size. This would allow for the claim that the T allele is associated with a larger stroke volume.

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

In the methods section I would change the order of the paragraphs. As it stands now, the 92 subjects are mentioned before they are described.

From:
Identification of XRCC1 variants
Samples for variation screening
To:
Samples for variation screening
Identification of XRCC1 variants

Again in the Methods, at the end of the section entitled Samples for Variation Screening, there is a hanging number 4, what is this?

In the Discussion section, third paragraph, the last sentence should use word than instead of then.

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 of importance in its field

Quality of written English: Acceptable

Statistical review: No

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