Reviewer's report

Title: Angiotensin-converting enzyme gene insertion/deletion polymorphism in migraine patients

Version: 1 Date: 2 November 2007

Reviewer: Michael Bjørn Russell

Reviewer's report:

General
This is an original paper with negative findings.

Major Compulsory Revision
The background section mentions several studies on ACE genotype and type of migraine. The paper will improve considerably by adding a Table that displays the different results. The numbers of patients in the different studies are relatively low, and for that reason a statistics analysis including all participants would be interesting and add to value of this paper. This background section should be rephrased in order not to duplicate the meticulous specific information in the added Table.

Please add information about the participants of the lisinopril (ref. 9) and candesartan (ref. 10) studies, whether the participants were mutually exclusive or whether some participants were included in both studies.

The results are all n.s. However, the numbers in the lisinopril and candesartan group are low. Thus, the risk for a type 2 error is present. The data on allele frequency in candesartan are not significant, however, p=0.058. This should be emphasized in the results and discussion section.

The control group was identified by a questionnaire. However, about 20% of migraineurs are not aware they have migraine (Int J Epidemiol 1995; 24: 612-8). A discussion of this matter should be added to the discussion section. As this weaken a difference, if healthy control and migraineurs have different ACE genotypes, since some in the control group do in fact have migraine.

The conclusion should be adjusted to the re-analysis as well as the risk of type 2 errors.

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: Needs some language corrections before being published

Statistical review: Yes, and I have assessed the statistics in my report.

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