Reviewer’s report

Title: Risk of stroke in patients with ovarian cancer: a nationwide population-based study

Version: 1 Date: 21 January 2014

Reviewer: Peter Lee

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“Risk of stroke in patients with ovarian cancer: a nationwide population-based study”

Comments on the paper submitted to BMC Medicine by Ai-Seon Kuan

Author: P N Lee
Date: 21st January 2014

Background

As two referees have indicated that a specialist statistical review of this paper would be beneficial, especially regarding the unequal period of follow-up for the two cohorts in the study, this paper has been passed to me for attention.

Overall opinion

The paper is well written and the results clearly presented and discussed. As regards the seven points to consider when assessing the work, the answer is clearly “yes” to five of them:

1. Is the question posed by the authors new and well defined?
4. Does the manuscript adhere to the relevant standards for reporting and data deposition?
5. Are the discussion and conclusions well balanced and adequately supported by the data?
6. Do the title and abstract accurately convey what has been found?
7. Is the writing acceptable?

As regards point 3 “Are the data sound and well controlled?”, I note that the study is limited by the lack of information on risk factors such as smoking and alcohol consumption. This is recognised by the authors in the discussion in para. 8, but should not, of itself, preclude publication.

As regards point 2 “Are the methods appropriate and well described, and are sufficient details provided to replicate the work?” the only issue related to appropriateness. While it is clear that the statistical methods used by the authors (Cox regression, log rank test) do take into account the different lengths of the two groups, there are three points I would like to make, all of which might be
regarded as discretionary revisions.

1. Table 2 and Results para. 4 make it clear that the increase in risk of stroke associated with ovarian cancer was higher in subjects aged <50 years than in those aged 50+ years old. However, there is no test of statistical significance of the two RRs. Based on the RRs and 95% CIs I estimate this as p = 0.015. If the authors agree, they might include p = 0.015, or p<0.05, after “was higher” in the text.

2. Although the study design was based on ovarian cancer and individually matched controls, the methods of analysis do not take the matching into account. One simple way to do this would be to use McNemar’s test to compare (a) the number of case-control pairs where the case got a stroke while the control was still being followed up with (b) the number where the control got a stroke while the case was still being followed up.

3. Table 3 shows the results of a multivariate analysis of risk factors for ischaemic stroke in patients with ovarian cancer. It would be of some interest to see corresponding results for the controls, possible as an additional file, with brief reference to it in the text.

**Quality of written English:** Acceptable

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

**Declaration of competing interests:**

I declare that I have no competing interests relevant to this paper.