Reviewer’s report

Title: Reproductive factors and its association with intima media thickness and carotid plaques in a cross sectional study of postmenopausal women enrolled in the population-based KORA F4 study

Version: 1 Date: 3 October 2013

Reviewer: Waqas Qureshi

Reviewer’s report:

Stockl et al reported in their cross-sectional analysis of a population based study of postmenopausal women, the association of carotid intimal thickness and presence of carotid plaques with reproductive parameters. They demonstrated that age at menarche and use of hormone replacement therapy was associated with these outcomes.

Major Revision:

The authors studied the association of carotid IMT/plaques with reproductive parameters, however this is an old question and as authors very well stated that this has been studied in the past in quite much detail in regards to the same findings that the authors found (ref Acta Obstet Gynecol Scand 2007 vol 86, 995–1002.

Their conclusion that use of HRT was associated with lower risk of carotid plaques in age and multivariable model also seems overstated as they did not adjust for multiple comparisons and these findings might be just by chance. Several of the p-values are missing for carotid plaque associations with the several of the variables.

The authors used logistic regression for analyzing the associations, however logistic regression tends to overestimate outcomes in situations where the outcome occurs in >10% of the individuals. In such situations, generalized linear regression model using binomial distribution and log link might be appropriate. This will reduce the effect size even further but may provide a better sense of the association.

One of the greatest limitations of these data is the missing data for which authors did not provide adequate methods.

Minor Revision:

It is important to describe the measures of exposure even though they were described previously for the better readability and understanding of the paper.

Several of the percentages in the table 1 are missing.

Minor discretionary revision:

Scientific writing needs improvement.
Level of interest: An article of limited interest

Quality of written English: Not suitable for publication unless extensively edited

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