Reviewer’s report

Title: Prevalence and risk factors of superior segmental optic hypoplasia in a Korean population: the Korea National Health and Nutrition Examination Survey

Version: 2
Date: 8 September 2014

Reviewer: Eleni Papageorgiou

Reviewer’s report:

In this study, Seo et al have investigated the prevalence and risk factors for superior segmental optic hypoplasia (SSOH) in a Korean population based on the data from the nationwide Korea National Health and Nutrition Examination Survey (KNHANES). The paper is well-written and has clear aims. The data analysis, results and tables are presented in a comprehensive manner.

However, there are some points that should be clarified and the paper would benefit from further discussion of some interesting findings.

Minor essential revisions

Methods: The authors state that they performed slit-lamp examination. Did it include funduscopy as well? Were the RFNL defects defined by means of funduscopy or by means of photography? Did they also use red-free illumination for the RNFL defects?

It is mentioned that “The readers, as masked to all information other than the fundus photographs, came to their final decisions by consensus”. Could the authors please provide a bit more information for how the readers reached consensus?

Results: Can you please mention in the text, the worst BCVA found in the study subjects? Was it 0.3 logMAR? (as seen in the table)

Could you please report also in the text/results (apart from the table) the comparison between SSOH subjects and controls regarding refractive error and BCVA?

Discussion: In the beginning of discussion the authors cite the Han et al study, which found a lower prevalence of SSOH. Was the inclusion of only one institution in the above study the only reason for this discrepancy in the findings, or are there more differences between the 2 studies explaining this discrepancy?

Could they also please provide briefly some data on the prevalence of SSOH in populations of non-Japanese, non-Asian origin? An incidence of SSOH up to 8% has been reported (Taylo and Hoyt, Book, pediatric Ophthalmology and Strabismus, 4th Ed)

The authors mention that there are some reports suggesting a female
predisposition for SSOH. Could they please cite these publications?

Could the authors also briefly mention in the Introduction or Discussion which are some other risk factors associated with SSOH? i.e. short gestational time, low birth weight, poor control of maternal diabetes….

Major compulsory revisions

The interesting finding of paternal IHD as a risk factor for SSOH should be discussed further. How was IHD defined? Was it present at time of conception? Are there any data regarding paternal age at conception (and maternal as well) or history of smoking? IHD would be relatively uncommon in young males at reproductive age. (However, this does not preclude subclinical endocrine disorders, growth hormone deficiency and insulin resistance leading to microvascular disease at a later age) What kind of tests had the affected individuals undergone, in order to set this diagnosis? What was the severity of IHD and how many years was it present, was there a staging system or any similar data? Did the affected males take any relevant medication?

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

**Quality of written English:** Acceptable

**Statistical review:** Yes, but I do not feel adequately qualified to assess the statistics.

**Declaration of competing interests:**

I declare that I have no competing interests