Reviewer’s report

Title: Variation in the circle of Willis in a Sri Lankan Population

Version: 8 Date: 24 March 2010

Reviewer: Peter B Canham

Reviewer's report:

The authors have been responsive to the concerns raised about their manuscript, most notably the inclusion of an assessment of their findings using statistical procedures. They include an assessment of ethnic origins related to other studies (in the early part of the discussion) as relevant to their own data. The authors (overlapping authorship) have published on similar results before – article 15 in their references (Intracranial aneurysms and its association with variations in the circle of Willis: a study of a Sri Lankan population); however, the focus is more on the incidence of brain aneurysms rather than on the caliber of major brain arteries, and their distribution.

Individual points:
1. The inclusion of two photographs of brain arteries – one of a ‘typical’ circle, and one of a variation (Type 6, with hypoplastic PcoA), makes a helpful addition to the original manuscript. However, in the opinion of this reviewer the typical circle could be enhanced by labeling each arterial segment as per their list of abbreviations AcoA, ACA, etc, with white arrows as used in Fig. 2. Neither Fig 1 or 2 is enhanced by the inclusion of the whole underside of the brain. Both figures could be reduced in size, to focus primarily on the circles, and they could also be presented side by side providing a comparison.

2. ABSTRACT p-value (and also in the text). It is interpreted by this review that a “p = 0.0000” means a very high level of significance, - - perhaps higher than the tables allow reporting. Would it not be better to simply present a “p < 0.001” or whatever is closest to appropriate. To write a p = 0.0 implies to some readers that there is utterly no chance whatsoever that the distribution of their data could be due to chance alone.

3. Abstract (p. 4) line 5: in a Caucasian dominant study by in Riggs and Rupp.

4. The second last sentence is confusing to read, and needs clarification for readability. Also, there is an agreement error – perhaps: “Fetal configurations [where the

5. ASIDE: should be consistent “Fetal” is fine (not Foetal), but then use hemodynamic, rather than haemodynamic, etc. The Oxford dictionary accepts the non-diphthong spelling.

6. METHODS page 7, last sentence is run-on with comma splices. Suggest using “;” once or twice for clarity: Transverse sections were cut (at 40 um) from each of the segments obtained as stated above in a plane that was perpendicular to the vessel (microtome model Shandon M1R, UK); a random 'section' was then
obtained from the water bath and three measurements of . . .

7. Referencing is inconsistent, whether appearing before the punctuation or after. Most of the time it appears after the punctuation “,” or “.” but on page 9 references also appear before the “,”.

8. Discussion: refers to correspondence analysis in Fig 1. This is likely figure 3.

9. Conclusion, page 13. There is an open bracket line 2, and likely a “;” is needed after populations; (line 3).

10. Reference 12: possible typo “in normal and infarced brains”? 