Reviewer's report

Title: Ultrastructural characterization of primary cilia in pathologically characterized human glioblastoma multiforme (GBM) tumors.

Version: 1 Date: 24 April 2014

Reviewer: Peter Satir

Reviewer's report:

In this ms, the authors describe ciliary and basal body ultrastructure surgical tissue samples from 7 patients with human glioblastoma multiforme (GBM) tumors. The tumors were characterized by important features including EGFR amplification, IDH mutations and MGMT promoter methylation which are relevant to prognosis. Mainly, the micrographs show abortive ciliogenesis with specific descriptive changes, one of which may reflect deficiency in Cep 123. Considering the material, it is useful to have some electron micrographs showing the state of the cilia, even though the resolution is sometimes less than optimal. No cross-sections of basal bodies are shown- it would be instructive to see how far along transition zone development is in these cilia, and this is best assessed in cross-section. Unfortunately, the patient material does not seem to be used to best advantage: we are not told what percent of cells is fully ciliated, partially ciliated and unciliated in each case. Does this change with potential prognosis based on EGFR etc? Presumably this information is available from the light microscope immunofluorescence and would increase the usefulness of the paper, showing that ciliation is potentially related to prognosis or not, even with this small sample. Without this information the study does not hang together well.

- Major Compulsory Revisions: (1) At least some cross-sections of later stage cilia where seen should be shown. A study of percent ciliation is imperative.

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

Quality of written English: Acceptable

Declaration of competing interests:

I declare that I have no competing interests