Reviewer's report

Title: Establishment and characterization of pleomorphic adenoma cell systems: an in-vitro demonstration of adenoma-carcinoma sequence in the salivary gland

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Reviewer: Ruy G Jaeger

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The manuscript is interesting and attempts to show first in-vitro demonstration of carcinomas arising secondarily from adenomas in the salivary gland. Question posed by the authors is well defined.

Some points needs to be addressed in methods and in results:

1) It is difficult to see bizarre epitheliod cells in the phase contrast micrographs

2) Broad spectrum keratin and S-100 protein are not reliable markers of myoepithelial differentiation. The authors should use cytokeratin 14 and smooth muscle actin.

3) Presence of perlecan was investigated only in xenografts and not in primary culture. Why?

4) Xenografts (Figure 6) show typical features of epidermoid carcinoma. There is no pleomorphic adenoma in the background. These data does not show a direct evidence of in vitro demonstration of carcinomas arising secondarily from pleomorphic adenoma. The authors should provide other interpretations for their findings.

Level of interest: An article of importance in its field

Quality of written English: Needs some language corrections before being published

Statistical review: No, the manuscript does not need to be seen by a statistician.