Reviewer’s report

Title: Potential biomarkers of ductal carcinoma in situ progression

Version: 0 Date: 25 Dec 2019

Reviewer: Cynthia Cohen

Reviewer's report:

This is an interesting and original study trying to find molecular biomarkers which would indicate potential progression to invasive ductal carcinoma and hence suggest the use of more aggressive surgical treatment for a particular DCIS. Many studies using immunohistochemical and molecular markers have been undertaken but as yet no definite answers have been delineated, including in the present study which only proposes the 3 genes (FGF2,GAS1, SFRP1) as potential markers. They were found in pure DCIS and in the DCIS component with invasive carcinoma. All 6 pure DCIS studied were Grade 3, 3 were comedo carcinoma entirely or as a component, and the 3 genes were unregulated in the pure DCIS vs DCIS component, and in the noninvasive vs invasive carcinoma. Normal breast tissue was used as control.

Many parts of this paper are too long- number of coauthors, Results which are well shown in the Tables 1-3, and the Figs 1-4, Discussion, and References. The 3 genes indicated have not been shown in several other studies referenced, and other references found.

I would really like to see a follow up retrospective clinical study of the 3 genes in DCIS pure and the subsequent invasive ductal carcinoma. Type of treatment (excision vs mastectomy), length of follow up which should be 10-20 years, grade, ER and HER2 status, cost to perform, how long to do the test, and technical skill required are a few parameters which need to be documented in order to assess the use of the gene analysis to manage treatment of DCIS.

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Yes
Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

Yes

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics

Quality of written English
Please indicate the quality of language in the manuscript:

Acceptable

Declaration of competing interests
Please complete a declaration of competing interests, considering the following questions:

1. Have you in the past five years received reimbursements, fees, funding, or salary from an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

2. Do you hold any stocks or shares in an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

3. Do you hold or are you currently applying for any patents relating to the content of the manuscript?

4. Have you received reimbursements, fees, funding, or salary from an organization that holds or has applied for patents relating to the content of the manuscript?

5. Do you have any other financial competing interests?

6. Do you have any non-financial competing interests in relation to this paper?

If you can answer no to all of the above, write 'I declare that I have no competing interests' below. If your reply is yes to any, please give details below.

I declare that I have no competing interests
I agree to the open peer review policy of the journal. I understand that my name will be included on my report to the authors and, if the manuscript is accepted for publication, my named report including any attachments I upload will be posted on the website along with the authors' responses. I agree for my report to be made available under an Open Access Creative Commons CC-BY license (http://creativecommons.org/licenses/by/4.0/). I understand that any comments which I do not wish to be included in my named report can be included as confidential comments to the editors, which will not be published.

I agree to the open peer review policy of the journal.