Reviewer’s report

Title: KRAS, BRAF Genotyping Reveals Genetic Heterogeneity of Ovarian Borderline Tumours and Associated Implants

Version: 3 Date: 8 August 2013

Reviewer: Sigurd Lax

Reviewer’s report:

The authors present an interesting and important study on the issue of peritoneal implants of ovarian serous borderline tumors. The application of modern molecular techniques allows them to analyze small lesions even with contamination of a significant amount of normal tissue. They find that implants and borderline tumors are genetically heterogenous with respect to mutations in K-Ras and B-RAF. They further found an association between mutated K-Ras and B-Raf, respectively and overexpression of p16.

Major compulsory revisions:

A major point is the classification of the implants. Invasive implants are associated with a significantly worse prognosis compared to non-invasive implants. Invasive and non-invasive implants are furthermore considered biologically distinct, the former invasive low grade serous carcinomas, the latter reactive changes. The authors mentioned that only non-invasive implants were included. However, the manuscript is missing criteria for the distinction between invasive and non-invasive implants. Some of the photomicrographs give the impression that invasive implants might have been included. Therefore, the implants need to be reviewed and further detailed. The criteria used for D need to be listed.

Minor essential revisions

The authors might comment on the reasons of the genetic heterogeneity of the analyzed implants and the associated serous BOT. Could this also be caused by technical factors or due to the small amount of analyzed tissue. Analysis on the single or few cell level would be of interest.

The study is lacking follow up data. Even if the follow up is less than 10 years, it should be included.

Please detail the implant with strong p53 or show a photo.

page 3: invasive implants affect prognosis stronger than non-invasive implants, this should be mentioned.

Level of interest: An article of importance in its field
Quality of written English: Needs some language corrections before being published

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