Reviewer's report

**Title:** Breast cancer detection using sonography in women with mammographically dense breasts

**Version:** 2  **Date:** 31 August 2014

**Reviewer:** Gerald Gartlehner

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The current manuscript concerns a case series of 148 symptomatic women with dense breasts undergoing supplementary sonography following diagnostic mammography. Following are a few comments that could help to improve the manuscript.

**Major compulsory revisions:**

- In a couple instances, authors refer to mammography screening. The included study population, however, was not a screening population but a population of symptomatic women (except 2 women who should probably be excluded from the analyses). Therefore, in this study mammography is used as a diagnostic intervention NOT as a screening intervention. Please delete all references to screening, this can be misleading. Along those lines, please state clearly in the inclusion criteria that the study population are symptomatic women.

- Authors report that sonography detected 6 additional breast cancers which were not detected by mammography. It remains unclear, however, whether sonography would have detected all cases found by mammography if sonography had been performed in a blinded manner. Most likely, not all cases would have been found. I think not blinding sonographers to the mammography results is an opportunity missed. The relevance of findings could have been greatly improved. Consequently, the results and conclusions of authors overstate the findings:

  - Line 207 “we found that US detected 27% more malignant lesions ...” is not correct if those who performed sonography were not blinded to mammography results.

  - It would also be important to know how many false positives sonography rendered.

**Minor essential revisions:**

- * I think "case series" would be a better methodological classification of this study than “cross sectional descriptive study”

- Table 1: It would be interesting to see the histology of the mammographically missed cancers.

- Table 3: If researchers who performed sonography were not blinded to mammography findings, results in this table regarding sonography are not very meaningful.
• Table 4: I am surprised that you did not find any ductal carcinoma in situ. Were they classified as invasive ductal carcinoma?

• There are still many typos in the manuscript which need fixed at some point.

Discretionary revisions:
There is a bit of a disconnect between the Introduction/Discussion and the Conclusions. In the Introduction and Discussion authors point out that mammography is not readily available in Uganda and that sonography could be a diagnostic alternative. The conclusion, however, refers only to women with mammographically dense breasts.

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

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.

Declaration of competing interests:
No COI with respect to content of this paper.