Reviewer’s report

Title: Recurrence and mortality according to Estrogen Receptor status for breast cancer patients undergoing conservative surgery. Ipsilateral breast tumour recurrence dynamics provides clues for tumour biology within the residual breast.

Version: 3 Date: 31 August 2010

Reviewer: Wendy A Woodward

Reviewer’s report:

This is an interesting analysis of an important data set which provides some additional information beyond the previously published work including patients treated with mastectomy.

Essential revisions:

Overall, the writing is somewhat confusing, and requires thorough review of the figures to make sense of the text, particularly in the abstract, and results sections. It is hard to make specific recommendations on how to fix this, but I suggest getting feedback from an academic outside of the field of breast cancer or from a non-academic breast cancer expert or both to provide feedback on general clarity.

The primary result is figure 5 demonstrating a difference in recurrence peaks between ER positive and ER negative breast cancers after less than a lumpectomy. The overlap in confidence intervals in this figure and throughout leads to some doubt as to the relevance of the finding. This should be discussed. Consideration of the pros and cons of the asymptotic confidence interval is beyond this reviewers expertise, however to the untrained eye it appears to shorten the confidence interval in the direction of the overlap, and discussion of this if appropriate may be pertinent to prevent non-expert readers from dismissing the results. Discussion of the limitations of the conclusions based on sample size and the use of site of first failure as the means of scoring recurrence should be more thoroughly discussed.

The discussion of the possible implications of the delayed peak in terms of biology is well-written and interesting.

It seems strange not to show the IBTR curves by XRT use since the effect of XRT on IBTR is its predominant effect.

There are two periods at the end of the results section in the abstract.

Level of interest: An article of limited interest

Quality of written English: Acceptable
**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'