Reviewer's report

Title: Androgen receptor expression in breast cancer: relationship with clinico-pathological characteristics of tumors, prognosis and metalloproteases with their inhibitors expression

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Reviewer: Michael C MacLeod

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The extent to which the authors have successfully complied with the requirements/suggestions of the two referees is mixed. For example, item #3 of referee #1 required them to alter the phrase "associated with death for tumoral progression" in the Abstract, p.2 since this phrase doesn't have a clear meaning in English. The authors did so, but the phrase still appears in the Results section. Also, item #6 of referee #1 pointed out that the designation of "early" breast cancer is inaccurate (on p.6). The authors changed this on p.6, but there are still at least three other places in the manuscript (in the Abstract and Background) where the authors still claim to be studying early breast cancer, which is not so.

The study reports several findings that are discrepant with previously published literature, and both reviewer #1 (item #16) and reviewer #2 asked for a discussion of these discrepancies. Although the authors addressed this, they have not in fact discussed the discrepancies (as in addressed reasons for the discrepancies) but simply restated the fact that there were discrepancies. In addition, the authors have not provided a hypothesis as requested by referee #2. Thus, the referee's characterization of the study as purely observational stands.

I have an additional complaint. I am a little uncomfortable with the dichotomization finally used by the authors, i.e. that a labeling score greater than 0 is used in the univariate and multivariate analysis. I rather doubt that the authors can reliably differentiate a score of 1 from background. But what about a score of 2, or 5, or 10? The authors should at least provide some statistical argument for the variability of accurately providing very low scores, and set the threshold above that variability. Whatever number is picked, should be used in Figure 2 as one of the "bins".

However, I'm not sure that any of these problems are cause for rejection. The paper does not appear to provide a definitive answer to the usefulness of AR status in prognosis, but there is no reason to doubt the soundness of the study.

My suggestion is that the paper could be published in BMC Cancer if the authors revise according to the above suggestions AND have the entire manuscript edited by a native English speaker - it is currently full of errors in grammar and spelling (e.g. "loose" for "lose") and odd constructions which in some cases make it hard to understand the science.