Reviewer's report

Title: Effects of tamoxifen on vaginal blood flow and epithelial morphology in the rat.

Version: 2 Date: 14 July 2006

Reviewer: Tufan Tarcan

Reviewer's report:

General
This is an important study in the field of women's health that investigates the effect of Tamoxifen on vaginal physiology which remains to be a gap in the literature. Sexual dysfunction is a common but not completely understood problem in women with breast cancer who are under Tamoxifen treatment. The methodology including the animal model is appropriate for the purpose of the study, the results are clear and the paper is overall well-written.

Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)
None

Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

1. The authors have observed similar findings in Tamoxifen and ovariectomy groups compared to controls such as reduced vaginal blood flow, increased estrogen receptor binding and decreased arginase enzyme activity. The only major difference between Tamoxifen and ovariectomy groups was the highly mucified vaginal epithelium in Tamoxifen group. The authors have attributed their observations in Tamoxifen and ovariectomy groups to ER antagonism and estrogen-deprived state, respectively. However, ovariectomy is also associated with a marked (>50%) decrease of testosterone which can also play a role in the patho-physiological vaginal changes observed after ovariectomy. In addition, we do not exactly know the effects of Tamoxifen on testosterone metabolism or receptors in rats. Since, there is no control group with testosterone and estrogen replacement in this study, it is not possible to differ the testosterone and estrogen-deprived states from each other. For this reason, I strongly encourage the authors to mention this issue as a weak part of their study in the discussion and also to shortly discuss the possible etiological role of testosterone deprivation in their findings.

2. The term "vaginal physiological function" in the abstract can be replaced by a more correct expression such as "vaginal physiology" or "vaginal function".

Discretionary Revisions (which the author can choose to ignore)

What next?: Accept after minor essential revisions

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: No

Declaration of competing interests:
I declare that I have no competing interests.