Reviewer's report

Title: A descriptive study of variables associated with obtaining nipple aspirate fluid in a cohort of non-lactating women

Version: 1 Date: 7 June 2006

Reviewer: Bonnie King

Reviewer's report:

General
Defining the factors associated with successful nipple aspirate fluid (NAF) collection is highly relevant to the application of breast fluid analysis to breast cancer risk assessment and risk reduction, and may provide important information about basic mammary gland biology. This study provides additional data on the topic through the analysis of archival clinical records generated by Dr. Otto Sartorius, who performed the NAF procedure on a series of 3043 women several decades ago in his private practice. The authors examined the success of NAF collection in relation to a variety of demographic, biological and clinical variables. After multivariate adjustment, the ability to obtain NAF was positively associated with young age, history of pregnancy, being married, tranquilizer use, and history of endocrine problems. As the study substantiates some previously recognized associations and reveals others that have not been observed, it will contribute to the field.

Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

1) The Materials and Methods section states that NAF collection was attempted on 3043 women, and then goes on to say that women diagnosed with breast cancer were excluded from the analysis. It appears that many of the statistical analyses were done on the entire group of 3043 women. Please clarify/confirm specifically that the 3043 number does not include women who were diagnosed with cancer.

2) The Discussion states that this "study builds on the work of Wrensch (1990) and others". However, the paper is sparsely cited, and I think the interpretation of the data could be enhanced by referencing a more extensive body of literature. There is very minimal discussion relating to the potential biological significance of the findings relating to endocrine variables and tranquilizer use. In addition, no 2005 or 2006 references are cited, and there are recent papers that report on NAF collection in relation to clinical, reproductive, and endocrine variables.

3) In the Results section "ethnicity data wasâ€œ needs to be changed to "data wereâ€œ. In the Discussion â€œInstead, the data wasâ€œ needs to be changed to "data wereâ€œ.

4) Iâ€™m not sure that "breast fluid extractionâ€œ is the best phrase to describe the NAF collection procedure.

5) The description in the Methods refers to the inner chamber of the Sartorius pump, without describing the device (which was double chambered in contrast to the aspirator currently used).

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 Materials and Methods section states that NAF collection was attempted on 3043 women, and then goes on to say that women diagnosed with breast cancer were excluded from the analysis. It appears that many of the statistical analyses were done on the entire group of 3043 women. Please clarify/confirm specifically that the 3043 number does not include women who were diagnosed with cancer.

2) The Discussion states that this "study builds on the work of Wrensch (1990) and others". However, the paper is sparsely cited, and I think the interpretation of the data could be enhanced by referencing a more extensive body of literature. There is very minimal discussion relating to the potential biological significance of the findings relating to endocrine variables and tranquilizer use. In addition, no 2005 or 2006 references are cited, and there are recent papers that report on NAF collection in relation to clinical, reproductive, and endocrine variables.

3) In the Results section "ethnicity data wasâ€œ needs to be changed to "data wereâ€œ. In the Discussion "Instead, the data wasâ€œ needs to be changed to "data wereâ€œ.

4) Iâ€™m not sure that "breast fluid extractionâ€œ is the best phrase to describe the NAF collection procedure.

5) The description in the Methods refers to the inner chamber of the Sartorius pump, without describing the device (which was double chambered in contrast to the aspirator currently used).

Discretionary Revisions (which the author can choose to ignore)

1) I thought the Introduction would be stronger if it focused on the potential of NAFs for risk assessment
and reduction, and with less discussion on breast cancer detection.

**What next?:** Accept after minor essential revisions

**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

**Declaration of competing interests:**

I declare that I have no competing interests.