Reviewer’s report

Title: Obesity and Male Breast Cancer: A Deadly Duo?

Version: 1 Date: 20 March 2015

Reviewer: Louise Brinton

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Minor Essential Revisions:

1. The premise of this article is that obesity may be the explanatory factor for recent increases in the incidence of male breast cancer. Although the article provides support for rising rates of both incidence and prevalence of obesity, there are some basic nuances that are not fully discussed. This includes the possibility that the rising incidence may merely reflect increased detection (an issue that is only peripherally discussed in the article) and that studies that have assessed the relation of obesity to male breast cancer risk have found it to be only modestly related to risk (about a 30% increased risk for obese men compared with non-obese men—a magnitude of risk that is quite similar to that observed for obesity and female breast cancers). The article brings up many analogies with female breast cancers, but does not discuss the extensive attention that has focused on purported reasons for observed increases in the incidence of female breast cancers, which are much more likely to result from changes in reproductive practices and use of exogenous hormones than from changing anthropometric measures. Thus, a cautious approach is recommended in how to interpret the changing incidence of male breast cancer (notably whether it is a true increase rather than one resulting from increased detection) and whether any changes could result from a risk factor that appears to only modestly affect risk. To this end, the article would benefit from attempts to address the attributable risk of male breast cancer due to obesity. The possibility of an ecologic fallacy being the explanation for both rising incidence rates (if true) and obesity prevalence also merits further attention in the article.

2. In terms of the presentation of the material, it would make more sense if the authors discussed the observed relationship between obesity and male breast cancer before discussing how obesity might explain the rising incidence of male breast cancer. Further, the contention that the number (assume this should be percent) of white men considered overweight or obese (BMI > 25) is higher than that of black men would argue against obesity being an explanation for rising incidence rates given that rates among black men are higher than those of whites. The authors follow this statement by discussing that rates of extreme obesity (BMI > 40) are higher among black than white men, but again the issue of attributable risk bears further attention, given the low prevalence of such levels of obesity in the general population. Finally, in this same paragraph, the authors argue against detection being an explanation for increased incidence given that weight gain at or around the menopause is a strong risk factor for female breast
cancer—logic which is difficult to follow.

3. The authors indicate that risk factors for breast cancer include increased alcohol consumption and liver cirrhosis, but provide no references for such assertions. The issue of the relationship of alcohol consumption to risk has recently been examined in a large pooling project, which failed to observe a relation with risk (Cook et al, Cancer Epidemiol Biomarkers Prev 2015;24:520). Further, few studies have examined the relation of cirrhosis to risk, with discrepant findings. The article makes no mention of gynecomastia, a recognized risk factor for male breast cancer, and a condition that is often associated with obesity.

4. In selected places, there is more relevant or updated literature that should be cited to support the points being made. For instance, more recent data are available regarding the incidence of male breast cancer than the articles cited. In terms of the relation of obesity to female breast cancer survival, there are many more informative studies than the small study cited (reference 65).

5. The discussion of treatment for male breast cancer would benefit from a contextual perspective. No information is provided on survival rates for male breast cancer; particularly useful would be some elaboration as to whether obesity might lead to later detection, which would then lead to a poorer survival. At the moment, the discussion regarding the effects of obesity on prognosis are entirely speculative and not entirely relevant to the focus of the article. The authors may also wish to re-consider a different title for the article ('Obesity and male breast cancer—a deadly duo?') given trends for earlier detection of male breast cancers and its relatively good survival when detected at early stages.

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

I declare that I have no competing interests.