Reviewer’s report

Title: Weight change during chemotherapy is a poor prognostic in early stage breast cancer

Version: 1 Date: 14 February 2010

Reviewer: Xiaoli Chen

Reviewer’s report:

General comments
This study examined weight change during chemotherapy treatment and its association with cancer prognosis among 132 women diagnosed with early breast cancer. Although this study has a long follow-up (median: 20 years) and measured weight and height, it has also several limitations including a relatively small sample size, study design (retrospective chart review), and limited covariates considered in the statistical analyses. These limitations were not discussed in this study.

Specific comments

Methods:

Page 4, population: readers may be wondering whether it makes sense to include women who were treated between 1976 and 1989 (across 13 years) in order to have at least 20 years of follow-up for the study. The use of chemotherapy and other cancer-related treatments may have changed over time between 1976 and 1989.

Page 5, weight measurements: how did the authors define overweight and obesity in this study? It seems that WHO obesity criteria was used (BMI: 25, 30 as cut-points for overweight and obesity) as shown in the results. It would be better to describe these cut-points in the Methods section. Also, how were weight loss and weight gain defined?

Page 5, covariates: What’s the full name for SBR? Were information on other cancer-related treatments such as radiotherapy and tamoxifen use obtained for this study? Lifestyle factors including physical activity have been increasingly reported to be associated with breast cancer prognosis. Was it considered in this study? Did the authors consider other sociodemographics such as education and income?

Page 6, statistical analyses: ‘…all variables used in this study… presented as means±SD’, however, there were no such means shown in tables or Results section. Regarding the statement ‘Initial BMI and tumor stage being strongly associated, tumor stage rather than BMI has been chosen for the multivariate analyses’, readers may want to know the main exposure variables considered for this study. In page 4, the authors stated that ‘We also verified the association of
weight at breast cancer diagnosis with survival’. Does it mean that BMI, as well as weight change, is another important exposure variable and should be included in the multivariate models? Further stratified analyses may be needed to test whether the association of weight change/BMI with breast cancer survival varies by tumor stage or other covariate. It would be better to check if the associations of obesity, weight gain, and weight loss with overall and disease-free survival are different or same.

Page 7, characteristics of the population: readers may want to know the distribution of TNM stage. How many women were categorized as both ER and PR positive?

Page 7, BMI and weight variation: if based on the WHO overweight and obesity criteria, the cut-points for overweight should be with a BMI of 25-29.9, but not 30, and for obesity, BMI>=30, not >30.

The authors used the median of BMI as cut-point, and it seems unnecessary to report the percentage of patients with BMI below or beyond the cut-point as ‘Forth-six percent of patients had a BMI below 24, while 54% had a BMI beyond 24’.

It would be better to provide the definition of weight gain and weight loss in the Methods section first, then show the percentage of women who had lost weight or gained weight in the Results section.

Discussion: In general, the interpretation of the findings about overweight is weaker and should be improved. More statistical analysis about overweight and obesity with survival are needed to compare with previous studies as shown in the 2nd para in the Discussion section.

Table 1. better to show TNM stage, give a note about ‘BMI, SBR’. Better to show these study characteristics by BMI (normal, overweight/obesity) and/or weight change (stable, weight loss, weight gain)

Table 2. How many variables were included or adjusted for in these models? Need a note. Were the tumor stage and nodal involvement highly correlated in the models? Were the types of other treatments such as radiotherapy or tamoxifen use adjusted for?

Figures, give a note what the OS and DFS mean, the definition of ‘stable weight’ and ‘changing weight’.

Level of interest: An article of limited interest

Quality of written English: Needs some language corrections before being published

Statistical review: Yes, and I have assessed the statistics in my report.

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