Reviewer's report

Title: Prevalence of lymphedema in women under treatment for breast cancer in a referral center in southeastern Brazil

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Reviewer: Aase S, A Sagen

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Review of manuscript

Prevalence of lymphedema in women under treatment for breast cancer in a referral center in southeastern Brazil

Breast cancer operated women (N=250) were investigated 6 months to ?years after surgery to estimate the prevalence of lymphedema and associated factors in women treated for breast cancer.

General comments

Studies on arm morbidities from breast cancer treatment are highly warranted. However, the material and the methods included in this study are poorly described.

Major

The heading refers to women under treatment, but the ongoing treatment is not described.

The chapter of Methods is poorly described. The description of the material, the inclusion/exclusion criteria and particularly the description of the methods and measurements being employed are unclear.

1. The inclusion criteria

What is “Absence of functional change” regarding the upper limb?

2. The grouping of the material in time since surgery

The period from 6 months to 5 years after surgery is very wide. Lymphedema and problems related to breast cancer surgery can possibly be much more profound at 6 month than at 5 years. Analyses based on these wide groups will not reveal important differences regarding time aspects. A simple table describing the material’s age etc (demographics and treatment) before adjustments, including descriptive statistics would have been clarifying.

3. The measurements

Only the measurement and definition of lymphedema has been described. The other outcome measurements in the tables and results has not been defined or described; pain?, obesity?, surgery; conservative? radical? Low dissection, high
dissection? How was seroma obtained? 

The definition of lymphedema used as difference of 2 cm or more between affected and control arm is problematic. It is well documented that the dominant arm normally is bigger than the non-dominant arm1, 2. Furthermore; 2 cm difference in a small arm can possibly be defined as lymphedema in the favor to non-dominant arm, but in a large arm 2 cm must be considered within normal differences 3-5,1. Without adjusting for dominant/non-dominant arm, the method used in this study unfortunately suffers from lack of validity (probably both sensitivity and specificity).

4. The age-grouping of the material
The age-groups are divided into below 57 years and older women up to 99 years? Why is that? Is it likely that women at 99 years can be compared to women at 57 years of age?

5. Issues that should have been discussed:
Estimating prevalence without prospective (preoperative) assessments. The use of observer-rated measurements and aspects regarding patients self reported (5 years back memories) measurements.

Reference List

Level of interest: An article of limited interest

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

Statistical review: Yes, but I do not feel adequately qualified to assess the
statistics.

**Declaration of competing interests:**

'I declare that I have no competing interests’