Reviewer's report

Title: Clinicopathological characteristics and health care for Tibetan women with breast cancer: a cross-sectional survey

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Reviewer: Eva Kantelhardt

Reviewer's report:

The authors present a cross-sectional study on breast cancer in Tibet. They have collected a total of 273 patients between 1973 and 2015.

The stated aim is to assess whether improvements in health care alter the clinicopathologic characteristics of Tibetan females with breast cancer (BC).

There are major problems with the approach of the study.

I) The authors mention they want to assess influence of health care system HCS on "the clinicopathologic characteristics " or whether BC is "more aggressive" in restricted HCS. This assumes a causative effect of the health care system on the biology (aggressiveness) or probably the presentation of BC. The cited literature for this assumption is about differences in OUTCOME of BC among different ethnic groups in the US. The only association mentioned in the cited literature is between HCS and mammography which of course indeed may lead to differences in presentation. The authors discuss access to health care (this cannot be assessed since there is no information about proportion of women reaching the hospital and those who do not), screening (18% prevalence) probably mammography screening? and lack of impact of investment in HCS on lymph node metastasis (it is not clear how this can be derived from the results).

There is no discussion about lack or availability of mammography in the manuscript and little discussion about reasons for early or late presentation which may influence the main outcome measures such as tumor size, stage and .

II) The authors describe 3 different levels of HCS: "free HCS", "new rural cooperative HSC" and "rural and urban integration HCS"

There are three problems: 1) it is a historical comparison since the first was implemented 1973-2001; the second 2002-2012 and the third 2013-15. There is no detailed description about what are the differences except graphic No. 1 where e.g. subsidies by government and health expenditures are given in local currency. These items are highly dependant on spending power, inflation, number of people served, age-distribution of population served, competing priorities etc. The other items mentioned beds per person and medical personell do not differ between the time-periods. The reader will not understand about these differences.
2) Seeing only 14 women in the "free HCS" seems extremely low compared to the other two groups (especially when used as reference category). The reader may wonder why there were so few - were the others excluded due to incomplete data (consort diagram does not mention these issues) or did the rest of expected breast cancer patients never reach the hospital? Tibet had between 1 and 3 Mio inhabitants in the given time-period. China has an estimated 22.1 cases per 100,000 women in 2012. This means 220 cases per year, the study only reflects a very minor proportion of the expected patients especially for the early years. All comparisons between the 3 HCS become problematic reflected by the large confidence intervals having such a very small comparison group.

3) there are various other factors which changed during those time-periods of HCS influencing the presentation of BC patients. These are: reproductive factors: use of contraceptives/hormone replacement therapy, number of births, duration of breast feeding etc. Co-morbidities and competing morbidities have greatly changed over the years and also highly influence the women’s choice for or against early presentation at the hospital.

General comments:

The English grammar and spelling needs some review, terms should be defined and used precisely (aggressive BC is not clear, seeing more cases >2cm or advanced stage does not mean aggressiveness but later presentation during the course of the disease).

CONSORT diagram must be enhanced.

Literature from low and middle income countries needs to be included especially about other factors influencing BC presentation such as genetics, social factors, screening/early detection etc.,

If interest is about tumor biology then hormone receptor status must be included and HER2 is available.

Results of other papers or own results are not clearly identified (e.g. first passage of discussion - are Han women another population in the same study or are they cited from other papers?)

Figures and tables need more precise wording.

I encourage the authors to re-discuss the aims of their manuscript and to analyze and write accordingly. Showing aspects of this assembled hospital based cohort from a population in Tibet definitely seems interesting!
Are the methods appropriate and well described?
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No

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