Reviewer's report

Title: Eligibility criteria for breast intra-operative radiotherapy: a study about 12,025 patients treated in two distinct cohorts

Version: 6 Date: 19 August 2014

Reviewer: Renzo Corvo

Reviewer's report:

The authors have investigated the eligibility criteria for breast IORT by collecting data from about 12,025 breast cancer patients. The analysis was carried out in large multiinstitutional series of women treated from 1980 to 2005. In order to improve the paper the Authors should consider the following recommendations:

Major Compulsory Revisions in Method Section

- being a retrospective investigation a wide heterogeneity in treatment is present with many variables in surgical procedures, radiotherapy techniques, indication to chemotherapy or hormonotherapy. These variables do not affect the eligibility criteria for IORT but can impact on recurrence rate and survival. This issue should be stressedin the manuscript;
- The RIOP and TARGIT criteria should be reported in a specific Table to better compare the data;

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Major compulsory Revisions in Results and Discussion Sections

Results

- the algorithm that leads to the Take Home message that almost 50% of T0-2No patients could be eligible for exclusive IORT should better emerge from the analysis,

Discussion

The Authors should explain if the ASTRO and ESTRO criteria for APBI are useful to select patients for exclusive IORT; since, I believe, if they do not agree they should briefly comment these recently published guidelines;

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

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