Reviewer's report

Title: The aluminum concentrations in central and peripheral areas of malignant breast lesions do not differ from that in normal breast tissues

Version: 1 Date: 21 August 2012

Reviewer: Ferdinando Mannello

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Major compulsory revisions
1) How the AA arbitrarily determined three groups for Al content?
2) On which chemical and biological basis they select the specified cut-offs?
3) the possible categories should be obtained after the recognition of biopathological characteristics of breast tissues (both normal and tumors)
4) no detail is described for the technique and no reference has been reported to highlight the high-specificity technique (lack of methodological issues, very high standard deviations, well-known or approved method, specificity, reliability, %CV, etc).
5) Before to declare that "Although the relationship between aluminum exposure and breast cancer has been hypothesized for a long time, precise assessments of the aluminum contents in the breast were inexistent up until now." the AA should read more carefully the literature, focusing attention not only on breast tissues but also on breast fluids. The literature data clearly demonstrated that Al may be accumulated in normal and cancer breast fluids. The accumulation is not related to plasma concentrations or transport.
6) Before to declare that previous methods of Al evaluation were "to low sensitivity-low specificity detection techniques", the AA should compare the methods or at least provide reliability of their technique in breast tissues. The AA obtained a very high standard deviations !!!
7) It has been previously reported also in breast fluids that Al has been found as linked to menopause and that age may have such a role in the accumulation of AL through antiperspirant use.
8) More cautious evaluation of data related to bibliographic source of Al toxicity

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