Reviewer's report

Title: Relationship between arsenic skin lesion and the age of natural menopause

Version: 1
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Reviewer: Irene Petritsi Figa Talamanca

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The paper reports on a study testing the hypothesis that Arsenic intoxication may result in precocious menopause. The hypothesis, which has not been tested before, is confirmed by the data. The uniqueness of the study consists of the availability of a large number of women with long time exposure to drinking water heavily contaminated by Arsenic in Bangladesh. This makes the paper interesting, original and useful. However the paper is poorly written, repetitive, contains several errors (not only language) and needs heavy editorial work.

Below are a few suggestions:

ABSTRACT

Under the section results, the last sentence is not useful. The p value can be added to the previous sentence.

Under the section conclusions: I suggest the following: The study showed a statistically significant association between chronic exposure to arsenic and age of menopause. Heavily exposed women experienced menopause two years earlier than those with lower or no exposure.

BACKGROUND

Page 3 line 4 should be 10/ug/L
Page 3 line 3 from the bottom resulting instead of results
Page 4 please do not use delays onset or delays menopause but use “delayed”
Page 4 next to the last sentence I would say “women are more at risk” not “will likely”
Page 4 last sentence: delayed menopause menopause may increase the risk (not “referred”)

METHODS

Please explain briefly what was the random clinical trial. Were these women in treatment? For what? For arsenic intoxication?
Also what was the “ongoing cohort study” It is not clear why you used two different populations if both of them were exposed to As. (“from the same tube”).
Page 6 last line and p. 7 first line: not clear” exists among the respondents
Page 7 second paragraph “reviewed retrospectively” not clear. Also last sentence “during that time of menopause”

STATISTICAL METHODS
p. 7 “adjusting for potential confounding variables

RESULTS
Table 1 is not useful. All characteristics should be shown separately for the two groups. Add the data of table 1 to table 2 and eliminate table 1.
Page 8 fifth line from the bottom:”were not significantly different. NOT “not associated”.
Page 9, before table 5 please repeat the variables for which you adjusted.
Please do not say possible potential factors, but potential confounding factors.
When reporting urinary arsenic levels, please always write the units used (ug/g (creatinine?)

CONCLUSION
Line 3 “in women having an increased risk”
Line 6 not “less” but shorter