Reviewer’s report

Title: Cancer and fertility preservation: international recommendations from an expert meeting

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Reviewer: Alison Loren

Reviewer’s report:

This paper is an expert opinion piece regarding 10 'hot topics' in fertility preservation in cancer patients. The authors convened a workshop including European experts in oncofertility in Genova, Italy in April 2015. The proceedings of this meeting have been summarized in this paper and final review was performed by a U.S. expert as well.

Comments:

Topic #2, page 8, line 53: "increasing pregnancy rates over time thus confirming the success of the strategies for fertility preservation": I disagree with this conclusion. There is ample evidence to suggest that even after highly intensive alkylator and radiation based therapies such as myeloablative hematopoietic cell transplantation, it is possible to recover spermatogenesis. Hence, increasing pregnancy rates with increasing time since therapy may not be solely attributable to fertility preservation techniques; it may simply reflect recovering gonadal function.

Topic #4, page 12, line 11: "Are cryopreservation strategies accepted ...": Please change this to "Are gamete and embryo cryopreservation strategies accepted ...". As currently written, it's unclear whether you are also including ovarian or testicular tissue cryopreservation.

Topic #8, page 22, line 2: "some authors suggest to propose cryopreservation of ovarian tissue to all patients who cannot delay the initiation of cancer treatments": I disagree with this statement, because many of the patients who cannot delay anticancer treatments are those with aggressive hematologic malignancies. Significant controversy exists regarding the potential for malignant contamination of ovarian tissue in this population, and hence, ironically, those who would most benefit from a rapid technique to preserve fertility are the very patients in whom it may pose a great risk.

Topic #8, page 22, line 48: As mentioned above, I feel it is essential to clarify that ovarian tissue cryopreservation has an extremely high risk of contamination with malignant cells in leukemia patients and thus this technique is not safe in these patients. Even high sensitivity approaches to detect minimal residual disease such as flow cytometry and PCR are not guarantees to prevent reimplantation of malignant tissue. Most studies discussing tissue cryopreservation are clear that this should not be used in patients with blood cancers (although the lymphoma risk may not be as high as leukemia).
Minor comments:

Abstract, line 26: "should be often faced" - change to "should be addressed"

Background, page 5, lines 6-7: "thousands of girls, young women and men" - change to include boys, or just say young women and men, or young male and female patients

References, page 38, reference 102 is a duplicate of reference 78.

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes

Does the work include the necessary controls?
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Unable to assess

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

Yes

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