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Fertility preservation (FP): The risks of reimportation of cancer cells after transplantation of vitrified-warmed ovarian tissue

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Purpose

We presented "Actively preserve fertility, but autotransplant cautiously" in ISFP (2009). More than 50 babies have been born after implantation of vitrified-warmed ovarian tissue (VWOT). Recently, there have been strong reports of death from recurrence of an original disease, termination, and resumption of chemotherapy. We hope to help medical personnel to provide patients with enough information on the merits and risks of this treatment for them to give informed consent.

Method

Search of the literature on FP.

Results

Although the recurrence of an original disease due to a graft is unlikely, it cannot be said with 100% certainty that the graft is not the cause of a recurrence. When pieces of tissue have been examined for cancer cells, infection may still occur due to transplantation of other sections of the same tissue. Cancer cells were found in 7% of ovarian tissue (OT) sections from 422 patients who had had their ovaries removed for FP (2013). Furthermore, MGB2 gene expression has been detected by qPCR in VWOT of advanced-stage breast cancer patients. Other studies have found negative results in tissue examination in cases of Ewing sarcoma and leukemia which have tested positive by RT-PCR.

Conclusion

For FP, all data from imaging, immunohistochemistry, transplantation into immunodeficient mice, RT-PCR, and actual transplants for each disease must be analysed. In addition, there are few accounts of what percentage of excised OT pieces were examined, and this should be reported. Freezing and storage of ovaries should be encouraged, and transplantation must be performed carefully.