Review Article

Common Techniques for Preserving Fertility in Girls and Young Women Undergoing Cancer Treatment

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Abstract

Current protocols for cancer treatment could lead to the failure of ovarian function and subsequent infertility in women. Therefore, utilizing ways to preserve fertility in these individuals seem to be essential. In this review, the full-text of articles which were accessible and had been published during 1976 to 2009 about different methods of female fertility preservation were collected and studied through various online databases such as PubMed, Science Direct, etc. According to the reviewed articles, there are several methods for fertility preservation in women, including ovarian transposition and oocyte, embryo and ovarian cortex cryopreservation. Ovarian transposition is not useful for preserving fertility in women who undergo chemotherapy. Embryo and oocyte cryopreservations require a delay before starting treatment. Metaphase II oocytes are high-volume and fully-differentiated cells which may sustain injury due to the freezing process restricting the number of collected oocytes and reducing the chances of fertility. On the other hand, ovarian stimulation and oocyte collection are not practical in young patients, especially in underage girls. In addition to the restrictions on the number of collected embryos and the raised legal and ethical issues, embryo crypreservation is limited to adults and married women. In comparison to other methods, cryopreservation of the ovarian cortex seems to be more appropriate as ovarian tissue is resistant to cryopreservation and it is easy to be collected by laprascopy, making it practical for use in premature girls. Furthermore, the large number of follicles in the ovarian tissue increases the chances of fertility preservation in women. In general, several parameters including the type, time and duration of treatment, cancer type, age and marital status determine the efficacy of each method.

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