

Recommendations on Fertility preservation for girls and young women with childhood cancer

Nordic Network for Gonadal Preservation after Cancer Treatment in Children and Young Adults, finalized May 2012, revised Feb 2015

Adaptation to adult guidelines should be considered when the girl has reached the maturity of a young adult.

All girls should be examined regarding pubertal development (Tanner stage and menstrual history) at diagnosis and should be informed of the risk for impaired fertility following the planned treatment.

If there is a very high risk of infertility, the patient and her parents should be informed of possibilities for fertility preservation by a professional, specially assigned for this purpose, e.g. a pediatric endocrinologist, a gynecologist or fertility specialist, according to local availability and routines. It is important that the autonomy of the girl is respected and that she, if mature enough, is offered the opportunity of individual consultation.

After treatment: all girls who have received alkylating agents or abdominal irradiation should after sexual maturation be offered referral to a gynecologist or fertility specialist for evaluation, counseling and for considering the possibility for ovarian hyperstimulation and cryopreservation of oocytes.

Menstruating girls

If the girl is menstruating, mature enough to give informed consent, is facing cancer therapy with very high risk of infertility AND therapy can be delayed 1- 2 weeks, ovarian hyperstimulation and cryopreservation of oocytes may be considered. The responsible oncologist must be consulted to make sure that no contraindications, such as bleeding disorders or too long delay of cancer therapy, to such procedures are present. At present, cryopreservation of non-fertilized oocytes is routine among older women. The girl should get information adjusted to her age.

All girls regardless of maturational stage

All efforts should be done to minimize the radiation exposure to the ovary, such as optimal dose planning and irradiation modality, shielding and oophorectomy. Present knowledge indicates that a radiation dose lower than 10 Gy may preserve some ovarian function.

Girls, who are facing or receiving oncological treatments associated with a very high risk of infertility, could be offered the experimental procedure of ovarian cortical tissue cryopreservation.

In menstruating girls, cryopreservation of ovarian tissue can precede controlled ovarian hyperstimulation (see above). The responsible oncologist must be consulted to make sure that no contraindications to such procedures are present.

At present, healthy children have been born after re-transplantation of adult ovarian tissue. Cancer contamination in the cryopreserved tissue is a contraindication for re-transplantation. Experimental studies are ongoing regarding the in vitro maturation of oocytes for fertilization from such tissue. Further research is warranted.

The parents and, if old enough, the girl should get verbal and written information about the experimental procedure, its associated risks and legal implications, and give informed consent to the cryopreservation.

Patients eligible for cryopreservation of ovarian cortical tissue (may change with time and should be updated yearly):

- ✓ Allogeneic/autologous SCT
- ✓ RT with ovary in the field
- ✓ Girls who undergo ovariectomy due to any cause