

## **Fertility Preservation in Cancer Patients**

A Guide for Patients/Families



## Fertility Preservation in Cancer Patients

Chemotherapeutic drugs that may be necessary for cancer treatment may have side effects that can result in an inability to have children in the future (infertility). Infertility is defined as inability to conceive, despite trying for one year in the absence of contraceptives in patients treated for cancer.

### What causes infertility?

There can be multiple reasons for infertility, such as:

- The reproductive organs do not produce healthy eggs or sperms.
- Impairment of any part of the reproductive system, preventing fertilization of the egg.
- Hindrance in implantation and growth of fertilized egg in the uterus.

### The following factors may increase the risk of infertility in patients undergoing cancer treatment:

- **Age**  
The risk of infertility increases with increasing age.
- **Chemotherapy drugs**  
Specific chemotherapeutic agents may have a more significant impact on your ability to conceive. It may also be dependent on the dose and duration of the treatment.
- **Hormonal therapy**  
Specific hormonal treatments such as ovarian function suppressive therapy is prescribed in combination with chemotherapy and may lead to temporary impairment infertility.

### Can fertility be preserved during Cancer Treatment?

Specific measures can help the preservation of fertility in the patient undergoing cancer treatment. However, all options may not be available in our country.

#### ADULT FEMALE:

- **Embryo Cryopreservation (freezing of the fertilized egg):** This is a widely used method for fertility preservation. Embryos after in vitro fertilization (IVF) are frozen and stored for future use. Freezing fertilized eggs is the best method for patients when sperm

is available such as a married couple. However, this process may lead to a delay in the initiation of cancer treatment. Doctors do not recommend this approach in certain tumours, such as estrogen-sensitive breast cancer.

- **Cryopreservation of unfertilized oocytes (egg banking):** This is appropriate for single women and is not menstrual cycle dependent. Harvesting of the eggs can be done on any day of the menstrual cycle to prevent delays. There is no requirement for sperm at the time of egg freezing.
- **Ovarian Transposition (displacing the ovaries):** This is available to women undergoing pelvic radiation as part of cancer treatment. However, this may not guarantee complete protection.
- **Ovarian Tissue Cryopreservation:** Ovarian tissue can be obtained and frozen for transplantation after cancer treatment is over.
- **Ovarian Suppression (Put Ovaries to Sleep):** During the procedure at the time of initiation of chemotherapy, physicians perform ovarian suppression so as to preserve the ovaries and allow them to regain normal function after chemotherapy ends.

#### A note of caution:

- During cancer treatment with chemotherapy, menstruation often stops and may resume once the treatment is complete. However, there is no assurance of fertility with the resumption of periods. You need to consult your medical oncologist/gynecologist for questions about this.


#### ADULT MALE:

- **Sperm Banking (sperm cryopreservation or semen storage):** Semen is the fluid that contains sperms. Sperm can be collected, frozen and stored until one decides to use it to have a baby.

#### CANCER TREATMENT

It is recommended that sperm be collected before initiation of treatment because the quality and quantity of sperm may be compromised after a single treatment.

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