STARTING A FAMILY AFTER CANCER

A look at medical advancements that offer hope to patients wishing to preserve their fertility.

DR KELLY LOI
Medical Director,
Specialist in Obstetrics & Gynaecology
Reproductive Medicine, Infertility & IVF
Health & Fertility Centre for Women

BMBCh (Oxford), FRCOG (UK),
FAMS (Singapore)

REPRODUCTIVE CANCERS – WHICH INCLUDE BREAST, ENDOMETRIAL (ALSO KNOWN AS UTERINE) AND CERVICAL CANCERS IN WOMEN, as well as prostate and testicular cancers in men – bring immense physical and emotional challenges. Among these, fertility complications remain a significant concern for patients who hope to start or grow their families.

Cancer treatments, such as chemotherapy, radiation and surgery, often affect fertility temporarily or permanently. For women, treatments for breast or cervical cancer can damage the uterus or reduce the number and quality of eggs. These treatments may also affect the ability to conceive or carry a baby to term. Similarly, men undergoing treatment for prostate or testicular cancer may face a reduction in semen production – or in some cases, complete cessation – making natural conception difficult.

Despite these challenges, advances in reproductive medicine are paving the way for hope. Fertility preservation techniques and emerging technologies now offer cancer patients the opportunity to plan for a family post-treatment.

Impact of Cancer Treatments on Fertility

Cancer treatment works by targeting rapidly dividing cells, but unfortunately, this includes healthy reproductive cells. Women may experience ovarian damage or early menopause due to chemotherapy or radiation exposure to the pelvic area.

The uterus may also sustain damage, making it difficult to support a pregnancy.

Men undergoing treatment for reproductive cancers may face reduced testosterone levels, which can lead to infertility. Treatments like radiation therapy and chemotherapy can affect sperm production, while surgeries to treat testicular or prostate cancers can interfere with semen production entirely.

The emotional toll of these side effects often weighs heavily on patients. Many feel a sense of loss or uncertainty about their future ability to have children. However, with proper planning and early consultation, patients can explore fertility preservation options tailored to their specific needs.

Exploring Fertility Preservation Options

Today, medical advancements in fertility preservation offer hope to both men and women affected by cancer. Women have several options to consider, including:

- **Egg freezing (oocyte cryopreservation).** This process involves stimulating the ovaries to produce multiple eggs, which are then retrieved and frozen for future use. This option is available to girls who are post-pubertal and women regardless of marital status, and offers a chance to conceive after treatment is complete.
- **Ovarian tissue freezing.** This involves removing and freezing ovarian tissue before treatment. Once the cancer treatment is complete, the tissue can be transplanted back into the patient to restore fertility.
- **Ovarian suppression.** A method that temporarily halts ovulation cycles and oestrogen production with the aim of protecting the ovaries during cancer treatment.

For men, fertility preservation options include:

- **Sperm cryopreservation:** This widely used method involves freezing sperm at extremely low temperatures to preserve their viability for future use.
- **Testicular tissue freezing:** An option for prepubescent boys who haven't yet begun producing sperm. This experimental method involves freezing testicular tissue to potentially restore fertility later.

These options provide patients with the flexibility to start or grow their families when they are ready, offering a sense of control during an uncertain time.

Timing and Financial Considerations

Fertility preservation is most effective when it is planned before cancer treatment begins. Once a patient's oncologist determines the urgency of treatment, they should collaborate with a fertility specialist to determine the best course of action. Fertility preservation techniques such as egg or sperm freezing must typically be performed before chemotherapy, radiation or surgery to ensure the best outcomes.

Cost is another important factor to consider. In Singapore, couples undergoing Assisted Conception Procedures (ACP), such as in-vitro fertilisation (IVF) or intrauterine insemination (IUI), can use their MediSave to offset costs. Up to S$6,000 can be withdrawn for the first cycle, with a lifetime withdrawal limit of S$15,000 per patient. Eligible couples receiving treatment at public Assisted Reproduction Centres can also benefit from co-funding of up to 75% from the Government, depending on their citizenship status. These subsidies make fertility preservation and assisted reproduction more accessible to patients navigating cancer recovery and family planning.

Hope for the Future

Cancer patients and their caregivers must remember that they are not alone on this journey. Fertility loss or uncertainty can be emotionally overwhelming, but resources — such as counsellors, support groups and mental health professionals — can help patients cope and manage their emotional well-being. Open dialogue with oncologists and fertility specialists is crucial to understanding the options available and making informed decisions.

Looking ahead, emerging technologies in reproductive medicine are providing additional reasons for optimism. Innovations such as in-vitro gametogenesis, which creates eggs and sperm from skin cells, and artificial ovaries that mimic the function of natural ones using 3D printing, represent groundbreaking possibilities for future fertility preservation. These advancements could one day revolutionise options for cancer patients.

Until these technologies become widely available, patients should focus on consulting their medical teams early in their treatment process. By initiating discussions about fertility preservation before starting cancer treatment, patients can better prepare for the journey ahead. With proper support and advanced medical interventions, the dream of starting or growing a family remains within reach for many cancer survivors.