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Female cancer patients find hope in ovarian tissue bank

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India's first ovarian tissue bank has given hope to young cancer patients whose fertility is threatened by chemotherapy. Dr Hrishikesh Pai, gynaecologist and infertility consultant at the Lilavati Hospital where the bank was launched, said that the relatively new approach is to preserve a woman's fertility by freezing the ovarian tissue.

This technique was originally developed to preserve the fertility of young women undergoing cancer chemotherapy and radiation. The chemical and radiation treatments often destroy the ovaries, as well as a woman's chances for bearing children. In these patients, the ovary can be removed, tissue carefully dissected through microsurgery, frozen, and subsequently reimplanted back to the woman after she has been cured of the cancer.

Dr Nandita Palshetkar, another gynaecologist and infertility consultant at the Lilavati Hospital who along with Dr Pai had introduced the first in-vitro fertilisation in the country, said this technology is also an option for those who want to postpone their motherhood but can't beat the biological clock. The tissue bank was recently set up in collaboration with Klaus Anderson, a senior researcher attached to the Rigshospitalet Hospital Copenhagen, Denmark. Dr Anderson has performed more than 220 such procedures, which is the highest in the world. By age 40, the likelihood of a woman producing eggs, capable of resulting in a conception decreases significantly. Therefore, women who find themselves not yet married at age 35, but who still want to have children in the future, the ovarian tissue freezing is a new solution.

Historical baby: Thirty two-year-old Belgian, Quarda Touirat, became the first woman in history in 2004 to have given birth to a healthy baby seven years after banking her ovarian tissue, before starting chemotherapy for Hodgkin's lymphoma

Dr Hrishikesh Pai explains that all of a woman's eggs are found in the thin 1 mm outer layer of the ovary, while the inside of the ovary is simply a pulp of blood vessels with no specific organisation or function other than to feed the eggs and follicles located on the periphery. This structure makes it possible for an entire ovary to be removed and the periphery dissected off microsurgically. The ovarian tissue is then put through a computer controlled, gradual freezing process. It is preserved for future transplantation back to the woman when she is older and ready for a child, but would otherwise have run out of time for getting pregnant with her own eggs.

Dr Nandita Palshetkar has launched a "transport freezing service" on similar lines as the Copenhagen centre of Dr Claus. This service will permit the patient to be operated anywhere in India, provided the ovary can be transported within six hours of surgery to Lilavati Hospital where it can be processed and frozen for future use.