

Cancer treatment in young women need not mean the end of their fertility

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The first long-term record of how cancer patients made use of their stored eggs and embryos after cancer treatment is presented today at the 36th Annual Meeting of ESHRE. The results demonstrate from the 20-year data how successful fertility preservation can be in these patients, especially those with breast cancer. Details of the analysis, covering the longest reported period of use, are presented today online by Dr. Dalia Khalife from Guy's and St Thomas's Hospital, London, at the virtual Annual Meeting of ESHRE.

Data were analysed on 879 young female patients who were treated for a range of cancers between 2000 and 2019; all had sought counselling on preserving their fertility ahead of treatment. Treatments such as chemo- and radiotherapy are known to have adverse effects on ovarian function, often causing infertility. The mean age of the patients was 33 years, and [breast cancer](#) was the most frequent diagnosis (63% of cases). After counselling, 373 patients (42%) chose to have their fertility preserved by one of three methods available: [egg freezing](#) (53%); embryo freezing (41%); both methods together (5%); and ovarian tissue cryopreservation (1%)

So far, reports Dr. Khalife, the rate of those returning to make use of their frozen eggs and embryos is 16% (61/373), and 44 of them achieved a remarkably high birth rate of 71%, with a twin rate of 9%, when the fertilised eggs and embryos were transferred in an IVF procedure. Around two-thirds of patients returned within two years of their diagnosis; women with breast [cancer](#) were the most likely to return for

fertility treatment. These patients also achieved the highest birth rates, significantly higher, for example, than those with lymphoma (70% vs 30%).

"The results are a demonstration of how fertility preservation in these cases can be effective," says Dr. Khalife. "Around one in six of those who stored their gametes had a good outcome."

While the cancer treatment had variable effects on fertility, "almost all patients" did show some deterioration in their ovarian reserve levels, reflecting a range of responses from mild toxicity of treatment (minimal effect on ovarian reserve markers) to severe toxicity (premature ovarian insufficiency). There were even a number of naturally conceived pregnancies after [cancer treatment](#).

Dr. Khalife explains that the most appropriate method of fertility preservation is decided on an individual basis. "Oocyte freezing is usually offered to young women," she says, "and, with our vastly improved freezing techniques, provides a good chance of future pregnancy. Ovarian tissue cryopreservation, though still not widely available, is undertaken in selected cases where time is urgent. This technique also now provides an option for the prepubertal female, where previously none existed."

This report is based on cases referred to a tertiary referral centre in the UK, the South East Cancer Network in the UK and one of the earliest centres set up to provide a dedicated fertility preservation and long-term follow up service. "It is our hope today that all young women diagnosed with cancer and good prognosis are referred for fertility consultation," says Dr. Khalife. "Success of such a service requires close work with our oncology colleagues, rapid access, and clear referral pathways to enable a large number of young patients to be treated."

"We do believe that a fertility preservation service must be integral to a modern cancer care pathway. Fertility preservation with eggs and embryos has been beyond experimental for some time. And it's important that clinicians across the world continue to collect and share data on long-term outcome for all methods, including ovarian tissue preservation, to provide patients with robust information."

This study showed a patient follow-up rate of 16% to make use of their frozen eggs and embryos, but this rate, says Dr. Khalife, "will definitely increase" in time. "When fertility preservation is carried out in young women—in their teens and twenties," she explains, "they are unlikely to return for many years. Previously, there were few options for fertility in these [young women](#)—but now there is and our data show that the results can be of great benefit."

More information: Abstract 036, Monday 6 July 2020: Live birth rate and utilization rate of eggs and embryos following fertility preservation (FP) in 879 female cancer patients over 19 years

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