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Female cancer survivors are one-third less likely to achieve pregnancy than women in general populat

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For the first time, a large population study has quantified the chance of pregnancy after treatment for cancer diagnosed in girls and women aged 39 or under. This landmark study, which linked all cancers diagnosed in Scotland between 1981 and 2012 to subsequent pregnancy, found that the cancer survivors were 38% less likely to achieve a pregnancy than women in the general population. This detrimental effect on fertility was evident in almost all types of cancer diagnosed.

"This analysis provides the first robust, population-based evidence of the effect of cancer and its treatment on subsequent pregnancy across the full reproductive age range," said presenter Professor Richard Anderson from the MRC Centre for Reproductive Health, Queen's Medical Research Institute at the University of Edinburgh, UK. "The major impact on pregnancy after some common cancers highlights the need for enhanced strategies to preserve fertility in girls and young women."

Professor Anderson will present the results of the study today at the Annual Meeting of ESHRE in Geneva.

The need for better access to fertility preservation has become more pressing in recent years for two reasons: first, the improved rates of survival in young women and girls diagnosed with cancer; and second, improvements in the techniques of freezing eggs and ovarian tissue to restore fertility.

This latest study, which cross-linked 23,201 female cancer survivors from the Scottish Cancer Registry with hospital discharge records, revealed 6627 pregnancies among the cancer survivors when nearly 11,000 would have been expected in a comparable matched control group from the general population.

For women who had not been pregnant before their cancer diagnosis, 20.6% of the cancer survivors achieved a first pregnancy after diagnosis (2114 first pregnancies in 10,271 women), compared with 38.7% in the control group. Thus, women with cancer were about half as likely to achieve a first pregnancy after diagnosis as were controls.

The analysis also found that the chance of pregnancy was reduced in all age groups, with substantial variations between different cancer diagnoses - notably, reduced pregnancy rates in women with cervical cancer, breast cancer and leukaemia. However, those cancers diagnosed later within the study period (2005-2012) were associated with higher rates of pregnancy than those diagnosed earlier (1981-1988), suggesting that for some cancer treatments the impact on fertility has reduced.

The diagnosis and treatment of female cancers are known to affect fertility for several reasons: some chemotherapy regimens can cause damage to the ovary, and this can occur at any age; radiotherapy can also compromise female fertility through effects on the ovary, uterus and potentially those brain centres which control the reproductive axis.

However, Professor Anderson stressed that the results of the study related only to subsequent pregnancy itself, and not to the incidence of infertility caused by cancer treatment. "Some women may have chosen not to have a pregnancy," he explained. "Thus, while these results do show an expected reduction in the chance of pregnancy after chemotherapy and radiotherapy, having a pregnancy after cancer does involve a range of complex issues that we cannot address in this study."

With rates of cancer survival increasing in both young male and females, fertility preservation ahead of treatment has an increasing role to play in fertility clinics. However, Professor Anderson described such services in all parts of the world, including the USA and Europe, as "very variable". "Oocyte and embryo freezing are regarded as established," he said, "but ovarian tissue cryopreservation is considered experimental, although it is the only option for prepubertal girls."

He added that the results of this study would allow clinicians to advise girls and women more accurately about their future chance of pregnancy. "They emphasise the need to consider the possible effects on fertility in girls and women with a new cancer diagnosis. The implications of the diagnosis and planned treatment and, where appropriate, options for fertility preservation should be discussed with the patient and her family. Even for patients considered at low risk of infertility as a result of treatment, a fertility discussion is recommended before treatment begins."

Provided by European Society of Human Reproduction and Embryology

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