

Correspondence



Embryos need a cozy house

Fabio Martinelli,¹ Francesca Filippi,² Francesco Raspagliesi,¹ Edgardo Somigliana²

¹Department of Gynecologic Oncology, Fondazione IRCCS Istituto Nazionale dei Tumori, Milan, Italy

²Infertility Unit, Fondazione Ca' Granda, Ospedale Maggiore Policlinico, Milan, Italy

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Correspondence to

Fabio Martinelli

Department of Gynecologic Oncology,
Fondazione IRCCS Istituto Nazionale dei
Tumori, Via Venezian 1, 20133 Milan, Italy.
E-mail: fabio.martinelli@istitutotumori.mi.it

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ORCID

Fabio Martinelli
<http://orcid.org/0000-0002-4863-1747>
Edgardo Somigliana
<http://orcid.org/0000-0002-0223-0032>

Conflict of Interest

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To the editor:

We read with great interest the paper by Kim et al. [1] on technologies for fertility preservation. It is a comprehensive overview on current and future options for safeguarding the possibility of future motherhood of young patients suffering from cancer. However, as gynecologists and obstetricians dealing with oncological patients, we'd like to focus on a neglected but crucial aspect of fertility preservation which we have to face off: the uterus. In fact, we have to think not only to ovarian function damage but also to pregnancy outcomes, focusing in particular on the possible adverse effects of radiation therapy on the uterus.

Albeit scanty, the available literature agrees on an increased risk of obstetrical complications in women receiving radiotherapy [2,3]. Side effects are generally dose related, being pelvic irradiation the most harmful, but even a total body irradiation can cause permanent damages. No data is available regarding the threshold of uterine radiation above which the damage is irreparable. Pre-pubertal irradiation seems the most dangerous. The most common local side effects include reduced uterine volume, endometrial injury, vascular impairment and myometrial fibrosis and thinning [2,3]. All these adverse affects bring the possibility to hesitate in subsequent obstetrical complications during childbearing, ranging from an absolute impossibility to bear a pregnancy due to uterus impairment to life threatening conditions such as uterine rupture. In the mid through, there is a variety of non-preventable and poorly predictable adverse obstetrical outcomes: miscarriages, abnormal placental implantation, low-birth-weight infants, preterm delivery, small for gestational age babies, and fetal malposition [2,3]. For some of these complications, the consequences on the newborn may be devastating. Being the topic extremely complex, imprecise and dependent on the type of treatments used to cure cancer, a personalized medicine tailored around the single woman should be adopted. Affected women should receive a comprehensive information on the possible consequences of cancer treatment on their whole fertility potential (and not only on the damage to ovarian reserve) and on the effectiveness and risks of the possible options for fertility preservation. Given the wide range of uncertainties surrounding the emerging field of oncofertility, a shared decision-making process after in-depth information with the woman is mandatory.

Undoubtedly, validated and experimental technologies for ovarian preservation are very attractive and can overcome radiation-related injury to the ovarian reserve. However, we

always have to consider the whole patient and not overlook that the ultimate aim of fertility preservation is achieving a safe pregnancy and a healthy baby. This does not mean that the family desire of women requiring radiotherapy should be neglected, but points out the need for a thorough counseling with a multidisciplinary oncofertility team offering realistic views. Balancing risks and expectations of seeking a pregnancy after cancer treatments, especially after radiation therapy affecting the uterus, is mandatory. Current and future possibilities to circumvent uterine damage have to be included in the counseling. Noteworthy, ongoing improvements in radiation therapy techniques may decrease adverse effects of radiation treatments and deserve utmost consideration from the involved physicians. [3]. The recent success of uterus transplantation may open a new era in this area even if, to date, this option remains highly experimental and controversial and its feasibility in an irradiated pelvis warrants demonstration [4]. Surrogacy is a possibility but it is very expensive and banned in the vast majority of countries [5].

Overall, current and future options should be discussed in a realistic and comprehensive manner with the woman, taking into utmost consideration that pregnancies require both the gametes and the uterus to take place. Embryos need a cozy house.

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