Birth of a second healthy girl more than 3 years after cryopreserved ovarian graft

Sir, Since the first pregnancy reported after transplantation of ovarian tissue in 2004 (Donnez et al., 2004), cryopreservation of ovarian tissue became a valid procedure to preserve fertility of patients with high risk of premature ovarian failure. Despite the publication of eight births following this first report, the procedure is still experimental as many issues can be addressed concerning its risk and its success rate (Demeestere et al., 2009). The success of the procedure is often limited by the lifespan of the graft. Ovarian function restoration usually occurs around 4–5 months after the graft and most pregnancies were obtained within the first year. Ernst et al. (2010) reported a second birth from a woman who conceived 2 years after ovarian tissue graft. We also recently obtained a second birth resulting of a transplantation procedure more than 3 years before. At age 24, the patient affected by Hodgkin lymphoma underwent a unilateral oophorectomy for ovarian tissue cryopreservation before conditioning treatment for bone marrow transplantation. Four years after the remission of the oncological disease, a first ovarian tissue orthotopic and heterotopic (sub-cutaneous) transplantation procedure resulted in the restoration of ovarian function and in a first spontaneous pregnancy. Unfortunately, the patient had a miscarriage at 7 weeks gestation (Demeestere et al., 2006). As the hormonal FSH levels progressively returned to menopausal status, a second orthotopic and heterotopic graft was performed in May 2006, leading to the birth of a first healthy girl in June 2007 (Demeestere et al., 2007). Menstruations were still regularly observed during the first year after the delivery, with a basal FSH level fluctuating between 3 and 26 mIU/ml. The FSH levels then started to increase and reached 45 mIU/ml in November 2008. However, the patient reported menstruation in January 2009 and growing follicles were observed in the grafted ovary. Spontaneous ovulation was confirmed and the patient became pregnant the following cycle leading to the birth of a second healthy girl in November 2009. Despite follicular growth and embryo transferred following IVF of collected oocytes at the heterotopic transplantation sites, the pregnancies were obtained spontaneously, confirming that orthotopic site may be more efficient (Demeestere et al., 2009). These two cases of a second birth 2–3 years after cryopreserved ovarian tissue transplantation confirm that long-term fertility restoration could be obtained after this procedure. These reports offer new data to validate the cryopreservation of ovarian tissue procedure for young women with high risk of premature ovarian failure.

References


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I. Demeestere*, P. Simon, F. Moffa, A. Delbaere and Y. Englert
Research Laboratory on Human Reproduction, Medicine Faculty and Department of Obstetric and Gynaecology, Erasme Hospital, Université Libre de Bruxelles, Brussels, Belgium
*Correspondence address. E-mail: idemeest@ulb.ac.be
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