Spontaneous pregnancy and normal delivery after repeated autologous bone marrow transplantation and GnRH agonist treatment

Sir,
A 14.5-year-old female received chemotherapy and concomitantly monthly GnRH agonist injections (Decapeptyl CR 3.75 mg/month), and ‘miniMantle’ irradiation (2500 cGy) in 1995 due to stage IV ALK positive anaplastic large cell lymphoma (Blumenfeld and Eckman, 2005). Several months later, she underwent autologous stem cell transplantation (SCT) with BEAC (carmustine, etoposide, cytarabine and cyclophosphamide) protocol, due to persistent disease. The GnRH agonist injections were also administered before bone marrow transplantation (BMT). Later she was found to have chronic active hepatitis secondary to hepatitis C infection and marrow transplantation (BMT). Later she was found to have chronic active hepatitis secondary to hepatitis C infection and was treated with α interferon with no response. At the age of 24, she married and spontaneously conceived, but pregnancy ended in an early spontaneous abortion. A month later, she conceived again, and this pregnancy developed normally until 24 weeks of gestation when recurrence of anaplastic large cell lymphoma was diagnosed. DVIP chemotherapy (dexamethasone, etoposide, ifosfamide and cisplatin) was administered and subsequently intrauterine growth retardation was diagnosed, followed by intrauterine demise. After pregnancy termination (780 g male fetus without malformations), the patient received monthly injections of GnRH agonist in parallel to DVIP chemotherapy and subsequently underwent a second autologous BMT following conditioning with BEAC protocol. Before the GnRH agonist, the FSH was 12.1 and LH = 1.17 U/l and follicles were sonographically detected in both ovaries. The option of IVF and ovarian cryopreservation were denied by another center. Three months later, she had a spontaneous menstrual bleeding, but 5 days afterwards, the FSH = 69.8 U/l, LH = 44.3 U/l and estradiol = 125 pmol/l. The abdominal and chest CT was normal. Three months later, the FSH = 4.1 U/l, LH = 4.7 U/l and estradiol = 1034 pmol/l and she continued experiencing regular menstruation. An attempt for IVF was stopped due to poor response, but 3 months later, she spontaneously conceived and after a normal gestation, she delivered on 30 August 2006 a normal, term, female neonate, 3450 g, with normal Apgar scores.

Bone marrow transplantation almost invariably induces ovarian failure, irrespective of patient age or treatment protocol (Meirow, 2000; Blumenfeld and Eckman, 2005; Lobo, 2005; Donnez et al., 2006). A large survey of fertility after SCT involving 37 362 patients found that only 0.6% of patients conceived after one autologous or allogenic SCT. The estimated odds for spontaneous conception after two BMTs are negligible (Meirow, 2000; Salooja et al., 2001; Donnez et al., 2006). The administration of GnRH agonist before and in parallel to chemotherapy suggests it might have minimized the gonado-toxic effect of chemotherapy and increased the chance of spontaneous ovulation and successful conception and delivery (Blumenfeld and Eckman, 2005). Since most of the methods involving ovarian or oocyte cryopreservation are not yet clinically established and highly successful, one should provide these young patients with all the information concerning the various attempts to minimize gonadal damage and preserve ovarian activity and fertility (Blumenfeld and Eckman, 2005; Lobo, 2005).

References

Zeev Blumenfeld, Myriam Ben Arush and Tsila Zuckerman
Rambam Health Care Campus, Technion- Israel Institute of Technology, Faculty of Medicine, Haifa, 31906 Israel
1Correspondence address. E-mail: bzeev@technunix.technion.ac.il/z_blumenfeld@rambam.health.gov.il

doi:10.1093/humrep/dem066
Advance Access publication on April 23, 2007

Independent counselling on embryo donation for infertility patients

Sir,
A key issue of contention in reproductive ethics is the perspective that human life begins at the onset of fertilization (Young, 1994; Sullivan, 2003), so that the disposal of surplus frozen embryos, not otherwise donated to other infertile couples,