Fertility Considerations, Counseling, and Semen Cryopreservation for Males Prior to the Initiation of Cancer Therapy

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As the survival rate for most types of cancer improves, more attention is rightly being focused on the quality of life of cancer survivors. Infertility, one of the most distressing long-term effects of cancer therapy, continues to be problematic for men and women. Current literature reflects increasing interest and attempts to preserve fertility options, with the caveat that men should and always have had the ability to “safely and easily” preserve their fertility by cryopreserving semen samples for future use. Indeed, semen cryopreservation techniques were developed and perfected many years ago, and cryopreserved specimens can (at least theoretically) remain viable indefinitely. Men experience no physical danger or risk with producing a semen sample by masturbation; however, the emotional and financial toll of sperm banking can be high. Coordination of oncology and sperm bank services often is problematic. Costs may be prohibitive, and patients generally receive little realistic information regarding future use of frozen sperm at the time of collection.

The University of Michigan Health System in Ann Arbor, in an attempt to improve the quality of life of male patients with cancer, has developed the Fertility Counseling and Gamete Cryopreservation Program (FCGCP). Coordinated by an oncology nurse practitioner, under the direction of the Assisted Reproductive Technologies (ART) laboratory director, this program provides coordination of sperm banking services along with program information to males with cancer who are diagnosed and treated at the University of Michigan. Although no one would question that sperm banking services are of value to patients with cancer, many patients are denied the opportunity to bank because healthcare providers often are unaware of the details. This article summarizes these details and the questions and concerns experienced early in the program’s operation.

Cancer Diagnosis

Men with cancers that require treatment with agents or surgery that may impair the ability to make or transport sperm should be counseled about infertility and sperm banking. The location of the cancer, as well as the type, amount, and intensity of treatment, including radiation therapy, surgery, and chemotherapy, will influence the overall risk of infertility as a permanent long-term effect.

Radiation

Spermatogonia (sperm forming) cells are extremely sensitive to the effects of radiation therapy. Doses as low as 400 cGy cause irreversible damage to the sperm.