

# IVF Nursing

NEWSLETTER SERIES

## Fertility preservation: Technological advances make future children possible for women undergoing cancer treatment today

Alana Shear is interviewed by Carol Lesser, Editor of this newsletter series

### EDITOR'S NOTE

#### Cancer's impact on fertility and the evolution of patient options



Carol B. Lesser,  
MSN, RNC, NP

The American Cancer Society estimates that, in the United States, 1,660,290 people will be diagnosed with cancer during 2013.<sup>1</sup> About 8.9% of them, or nearly 148,000 people, will be under the age of 45, according to incidence data from the National Cancer Institute.<sup>2</sup> We are familiar with the complex constellation of emotions—arguably

even more profound when the patient is in the prime of his or her life—that surround a cancer diagnosis. Fortunately, significant advances in early diagnosis and in the efficacy of cancer therapies have led to improved long-term survival for many of these patients.

In the past, the sole focus was on preserving and prolonging life. Today, the need to address fertility concerns and other quality of life issues is recognized from the start. Most patients of reproductive age expect and appreciate a full disclosure of the effects of their cancer and treatment on their future ability to bear or father children. For some individuals, fertility preservation becomes their primary focus and provides inspiration to endure their treatments and the uncertainties of their diagnoses.

On a national level, Livestrong, an advocacy and support organization for people with cancer, offers a program

called Fertile Hope ([www.fertilehope.org](http://www.fertilehope.org)) that is dedicated to patients dealing with fertility issues. In vitro fertilization (IVF) centers that participate in this program offer expeditious treatment to properly screened individuals at a reduced rate in a compassionate setting, with trained and caring clinicians who specialize in ministering to this group of patients. Fertile Hope provides educational support, as well as the medications needed to complete an IVF cycle, at no charge to these patients.

There has also been an expansion in the number of IVF programs that offer fertility preservation cycles, either in-house or regionally, in an effort to sensitively support the reproductive wishes of younger patients with cancer.

Recent advances in egg freezing (ie, oocyte cryopreservation), which is no longer considered experimental by the American Society for Reproductive Medicine (ASRM),<sup>3</sup> and improved ovarian reserve testing to identify candidates who would most benefit from either egg or embryo freezing, have enabled physicians and nurses to provide more information and options to these patients.

We also have a better understanding today of which cancer treatments are most gonadotoxic. This contributes to our ability to counsel patients on appropriate fertility treatment options for them. As the ASRM also noted,<sup>3</sup> “Data on pregnancy and live births from oocyte cryopreservation in cancer patients are very limited, and success rates must

**Carol B. Lesser, MSN, RNC, NP**, is a Nurse Practitioner at Boston IVF, Boston, MA. **Alana Shear, RN, BSN**, is Fertility Preservation Program Manager at Reproductive Medicine Associates of New Jersey (RMANJ) and is Nurse Manager of its Eatontown, NJ office. See Disclosures on page 4.

This supplement is supported by



EDITOR'S NOTE *continued*

be extrapolated from other populations for patient counseling. However, in this population at high risk for infertility, oocyte cryopreservation may be one of the few options available and therefore is recommended with appropriate counseling.”

Ovarian reserve testing and other improved methods for predicting a patient's fertility potential have been helpful to patients trying to weigh their options. For those with excellent ovarian reserve, moving forward with fertility-preserving treatments is an option if their oncologists approve. For the patient with severely diminished ovarian reserve, informing her that delaying her cancer treatment is not recommended and that third-party reproductive options await her once she is cancer-free can help her set realistic goals and avoid losing precious time.

While not all patients with cancer who explore their fertility preservation options decide to proceed, all can benefit from a comprehensive explanation of the effects of their treatment on their ability to bear children in the future. In the past, patients were not even informed of the unintended toxic effects of their treatments on their eggs or sperm; later, they made the painful discovery that they were unable to have biologically-related children. Today, in a recently updated statement, the American Society of Clinical Oncology recommends an early discussion of fertility preservation options as part of the informed consent process, before treatment is initiated.<sup>4</sup>

We now understand that the effects of chemotherapy on ovarian reserve vary significantly, depending on a woman's age (both her chronological age and her fertility age), the chemotherapeutic agent used, and the dose and duration of

treatment. In the case of radiation to the pelvic organs or the brain, there can also be an adverse effect on ovulation and reproductive capacity.

The most important message to emphasize with these patients is that menstrual cyclicity does not imply egg quality or fertility potential. Our patients must come to understand that, while resumption of menses after treatment is desirable, ovarian reserve may still have been adversely affected by the cancer treatment.

In this issue, I will interview Alana Shear, an IVF nurse at Reproductive Medicine Associates of New Jersey (RMANJ) in its Eatontown, New Jersey office. Alana and the fertility preservation program at RMANJ offer cancer patients compassionate and comprehensive counseling and care in a timely fashion. The program's systems and protocols assist patients in making well-informed, delicate decisions as rapidly as possible. Alana's role is a prominent one and exemplifies the unique contributions IVF nurses can make to the care of this special group of patients.

## References

1. Cancer Facts & Figures 2013. American Cancer Society website. <http://www.cancer.org/research/cancerfactsstatistics/cancerfactsfigures2013/index>. Accessed May 30, 2013.
2. Surveillance Epidemiology and End Results (SEER) Cancer Statistics Review, 1975-2010. National Cancer Institute website. <http://seer.cancer.gov/statfacts/html/all.html#incidence-mortality>. Published April 29, 2013. Accessed May 30, 2013.
3. The Practice Committees of the American Society for Reproductive Medicine and the Society for Assisted Reproductive Technology. Mature oocyte cryopreservation: a guideline. *Fertil Steril*. 2013;99(1):37-43.
4. American Society of Clinical Oncology clinical practice guideline update. Fertility preservation for patients with cancer [published online ahead of print May 28, 2013]. *J Clin Oncol*. 2013;doi: 10.1200/JCO.2013.49.2678.

## Helping patients with cancer make decisions about fertility preservation options

An interview with Alana Shear by Carol Lesser



Alana Shear, RN, BSN

**Ms Lesser:** Alana, please tell us how long you have worked with IVF patients and when you began working with fertility preservation patients. When did you realize you had a special affinity for working with this population?

**Ms Shear:** I have been working in the field of infertility for 15 years, with a special focus on fertility preservation patients for the past 5 years. Over time, referral to our

practice for fertility preservation increased and I helped to identify the staff and resources that would be supportive to patients and help streamline the process.

**Ms Lesser:** Please describe your role in caring for fertility preservation patients and how you work collaboratively with their physicians.

**Ms Shear:** As the lead nurse on our fertility preservation team, once we receive a request for our services, I place an introductory phone call to welcome the patient to our

practice and to learn more about her and her diagnosis. I also inquire about her plan for treatment and ask for her oncologist's contact information.

In order to make the best use of her first in-person visit to our practice, I ask about her menstrual history and discuss her fertility preservation options, including oocyte cryopreservation and embryo cryopreservation. We also review assisted reproductive technology basics, such as cycle timing. Educating patients ahead of time allows them to participate more fully during both the initial consultation and later, when they begin treatment. Finally, we briefly discuss her financial concerns and insurance coverage (for the most part, fertility preservation is not covered by insurance).

Once I've gathered all the facts, I relay this information to the patient's reproductive endocrinologist. Together we develop a plan of care that respects the patient's emotional, physical, and financial resources.

After the initial in-person consultation, I meet with the patient and her significant other(s) to review, in detail, the fertility preservation cycle and our process. In most cases, time is of the essence and patients need to make quick decisions about whether to pursue treatment or not. When patients are unsure about how to proceed, I follow up daily as needed.

**Ms Lesser:** Your program is known for taking excellent care of these patients. Can you tell us 5 things that your program does well in meeting the needs of this population?

**Ms Shear:** We take excellent care of all our patients at RMANJ and have put many resources into our fertility preservation program. Five important things we do for fertility preservation patients include:

1. We communicate with both the patient and oncology team prior to the initial consultation.
2. We offer consultations in numerous locations, usually on the same day as the initial call or the next day.
3. Our team developed an oncology clearance template letter to help expedite clearance for the patient's fertility preservation cycle.
4. We customized our new patient intake forms and consent forms for ease of use by fertility preservation patients.
5. We provide these patients with a discounted financial program.

**Ms Lesser:** Can you share your best protocols to maximize efficiency in initiating gonadotropins if the decision is made to proceed?

**Ms Shear:** Time permitting, we can start a patient on birth control pills on day 2 or 3 of her menstrual cycle for about a week, then discontinue the medications and start her

stimulation cycle the next day. Many younger patients are already on birth control pills, which makes starting a cycle even quicker. If patients come to us ready to start and are in the luteal phase of their menstrual cycle, we typically administer an antagonist to suppress them and then have them return to our center 3 days later to start stimulation.

**Ms Lesser:** Which ovarian reserve tests do you rely upon and why? Will you allow a patient to cycle if her oncologist has given her clearance, but her ovarian reserve suggests a very poor oocyte yield, even 1 or 2 follicles?

**Ms Shear:** The anti-Mullerian hormone (AMH) level is drawn to monitor ovarian reserve and can be checked at any time during the menstrual cycle, even when a patient is on birth control pills. Transvaginal ultrasound examinations also provide an opportunity to evaluate the number of follicles present in the ovaries.

If a patient is deemed a poor responder, we counsel her about her potential for a low success rate for stimulation/cryopreservation, but we still allow her to proceed with the cycle. We know that, for many women, this is their only opportunity to preserve their oocytes or embryos prior to oncology treatment.

**Ms Lesser:** For breast cancer patients, do you use aromatase inhibitors? If so, can you tell us how you use them and for how long?

**Ms Shear:** Our protocol is to start patients who have estrogen-sensitive cancers on letrozole, 5 mg daily, the day prior to stimulation. Letrozole is discontinued the day of trigger and then restarted the night of egg retrieval. Estradiol levels are rechecked about 5 days after egg retrieval and letrozole is discontinued if the level is < 50.

**Ms Lesser:** What is your best advice for patients, newly diagnosed with cancer, who are concerned with possible cancer risks to their offspring if they create embryos or freeze their eggs for future use?

**Ms Shear:** There will always be a familial risk of cancer, but we do not believe that this is amplified by embryo or egg freezing.

**Ms Lesser:** How do you provide medication instruction to those who proceed to egg retrieval?

**Ms Shear:** We provide in-office medication training for our patients and they are given access to online videos for reinforcement as needed.

**Ms Lesser:** How do you get the word out to oncologists and other referral sources about the need for a prompt, well-coordinated referral?

**Ms Shear:** Our physicians frequently participate in local tumor boards and give lectures at the surrounding

hospitals and cancer centers. Our fertility preservation nurses stay in contact with the patient's oncology team and provide the team with regular updates about the patient's cycle status and outcome. We also send them the patient's laboratory reports for postretrieval estradiol levels.

We also alert the oncology team to the fact that patients are usually triggered with human chorionic gonadotropin (hCG) and that this can result in a positive pregnancy test if the test is performed too soon after trigger. Many oncologists perform a pregnancy test on the first day of chemotherapy or radiation treatment and need to be aware of the incidence of false positives associated with hCG trigger.

**Ms Lesser:** What financial assistance do you offer patients?

**Ms Shear:** Our program offers discounted pricing for oocyte and embryo cryopreservation for those patients who do not have insurance coverage. Most women do not qualify for fertility benefits, even if they have fertility coverage, because most insurance companies only provide coverage if there is a diagnosis of infertility.

We also offer 5 years of free cryopreservation storage for our fertility preservation patients. Since most of them are patients with cancer who cannot utilize the cryopreserved material for at least 5 years, we feel this lessens the burden on them while they are in treatment.

If patients are under 21 years old, we only start billing them for cryopreservation storage when they turn 26.

**Ms Lesser:** What mental health counseling do you provide, given the highly stressful situation in which patients find themselves when having to make decisions that will impact their future childbearing options?

**Ms Shear:** Our fertility preservation team includes in-house social workers. They are available to discuss the stress associated with a cancer diagnosis, as well as the various decisions that need to be made when using fertility preservation treatments as part of a patient's survivor strategy.

Many of our local cancer centers also have wonderful mental health practitioners and support teams available to help these patients.

**Ms. Lesser:** What percentage of patients who come through your program go forward with a cycle?

**Ms Shear:** Approximately 50% of the patients who contact us go forward with a cycle. This figure has improved since we started placing the introductory phone calls and assembled our dedicated fertility preservation team.

When patients do not go forward, it is usually because they have not been cleared by their oncology team, citing the urgency of their needed cancer treatment and the inability to cycle quickly enough. Financial constraints are also noted as reasons for not proceeding.

**Ms Lesser:** Can you describe to us what you find most gratifying in caring for these individuals and perhaps one patient story that stands out for you?

**Ms Shear:** Cancer patients inspire me every day. I am amazed at their strength and positive attitude at such a difficult time in their lives. There are so many stories that I could share of patients who have gone on to a fertility preservation cycle, but I think that a note I received from a patient who decided *not* to cycle stands out the most.

She was a brain cancer patient who had sought help from our team and wrote us the following note afterwards:

*Thank you so much for your time yesterday. We know that you worked late to squeeze us in and your presentation was so clear and informative. I learned so much. Also, thank you for sharing our options with us. While initially, we were leaning towards embryo freezing, we have decided to do nothing for now. We already have a lot on our plates and may decide to go radiation-only after all. Either way, we are still undecided about the role of children in our lives, so it seems unfair to proceed if we are not positive that we'd want or be able to use the embryos in the future. Thank you for giving us the gift of choice, though. I have not had many options with this cancer; you gave us back the power of choice and for that, I am so grateful.*

*While we won't proceed now, perhaps sometime in the future we will need your help.*

*All the best—you and your team are doing a wonderful thing. And you remind me that miracles happen every day.*

#### Disclosures

**Carol Lesser, RN**, discloses that she received compensation from Watson for her participation in the preparation of this newsletter.

**Alana Shear, RN**, discloses that she received compensation from Watson for her participation in the preparation of this newsletter. She is a member of the speakers' bureau for EMD Serono, Inc.

## Resources

### FERTILE HOPE

<http://www.fertilehope.org/>

### MEMORIAL SLOAN KETTERING CANCER CENTER FERTILITY SURVIVORSHIP CENTER

<http://www.mskcc.org/cancer-care/survivorship/fertility>

### THE ONCOFERTILITY CONSORTIUM AT NORTHWESTERN UNIVERSITY

<http://oncofertility.northwestern.edu/>