

## *Genetics Corner*



### **Gynecological Management and Fertility Issues for Women with Lynch Syndrome**

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The 5<sup>th</sup> annual DFW hereditary colon cancer conference for patients was held on March 2, 2013. Four excellent speakers presented on risks, screening, and surveillance for hereditary colon cancer. A patient panel finished the conference with a discussion their own personal experiences. Dr. Mark Messing, a board certified gynecologic oncologist with Texas Oncology in Bedford, was one of these speakers. He presented on gynecologic issues and fertility preservation for women with Lynch syndrome (LS). This proved to be an interesting talk for our participants, and it has been summarized below.

#### **Gynecologic Cancer Risks: The Basics:**

Women with LS have about a 40-60% lifetime risk for endometrial cancer with an average age of onset at 50 years. Endometrial cancer is difficult to screen for, but endometrial cancer screening is appropriate for women with LS due to their increased risk. Women with LS should be offered annual endometrial biopsies beginning at 30-35 year old or sooner for some families identified as being at further increased risk. In the general population, endometrial cancer is usually caught early, since abnormal bleeding is an early sign. It is not known how often irregular bleeding is an early sign of endometrial cancer in women with LS. Having a risk-reducing hysterectomy is the most effective way to reduce endometrial cancer risk; the advised procedure includes having a bilateral salpingo-oophorectomy (BSO) after childbearing is complete.

The risk for ovarian cancer in women with LS is 10-12% with an average age of onset of 42 years. Unfortunately, ovarian cancer, like endometrial cancer, can be very difficult to screen for, and there are no NCCN guidelines for ovarian cancer screening. Women with LS who choose to delay oophorectomy are encouraged to watch for symptoms; these include bloating, changes in bowel or bladder habits, and abdominal pain. While BSO significantly reduces the risk for ovarian cancer, a slightly increased risk for primary peritoneal cancer remains. It has been suggested that the increased risk for primary peritoneal cancer may be the result of ovarian cancer that was missed during bilateral oophorectomy.

### **Other Considerations Following Hysterectomy with BSO:**

In addition to the reduction of gynecologic cancer risk, there are other benefits of hysterectomy with BSO. Ovaries produce estrogen, which breast cancers usually feed off of. For this reason, breast cancer risk can be reduced up to 50% in women who have had BSO before 50 years of age. Hysterectomy with BSO in women who are pre-menopausal will cause them to go through menopause, which has well-known side effects. These include hot flashes, vaginal dryness, irritability, and mood swings.

### **Hormonal Replacement Therapy (HRT) after Hysterectomy with BSO:**

HRT can relieve most symptoms associated surgical or natural premature menopause, and is generally not contraindicated for women with LS. Also, natural or surgical premature menopause *without* estrogen HRT is associated with increased risk of heart disease, fractures, and cognitive impairment. For women aged 50-79 years, there has been no association between breast cancer risk and estrogen-only HRT for up to 7.2 years. However, estrogen-only HRT does slightly increase the risk of thromboembolic disease and stroke. Androgen (testosterone) replacement may also be used to help improve mood, libido, and bone mineral density. However, androgens may increase the risk for breast cancer and heart disease.

Estrogen-only HRT is only for women who have had a hysterectomy in addition to BSO. This differs from combined HRT, which includes progesterone that is used to maintain the lining of the uterus. Combined HRT is associated with a significant increase in breast cancer risk, and is generally not prescribed for women who have other risk factors for breast cancer.

### **Fertility Preservation for Hysterectomy with BSO:**

In addition to hysterectomy with BSO, chemotherapy and radiation therapy can cause decreased fertility in women undergoing treatment for LS-related cancers. Fortunately, there are fertility-preservation options for this group of women. One option includes embryo banking, which involves harvesting eggs and freezing eggs for later use. Women who choose this option have to consider that they will need to have an existing partner or use sperm banking. Thus, this is not an advisable option for women who have not yet determined who they want the father of their child or children to be. Egg banking is another viable option. This involves harvesting and freezing unfertilized eggs for in vitro fertilization and implantation after cancer treatment. This may be an attractive option for women who are single and/or are opposed to embryo creation.

### **Fertility Preservation during Cancer Treatment:**

Ovarian tissue banking is an option for women who are undergoing radiation or chemotherapy. This involves temporarily implanting ovarian tissue into another part of the woman's body, such as her arm, to be stored for future use. This method is considered to be experimental. Other options, such as radiation shielding, which involves using a shield to reduce scatter radiation to the ovaries, and ovarian transposition, which involves temporarily surgically repositioning ovaries away from the radiation field, were mentioned but not discussed in detail. Also, raising non-biological children is a suitable option for many women.

There are several gynecologic concerns for women with LS. Women with LS face the possibility of having to undergo a major prophylactic (or treatment-related) surgery. They must also deal with the potential of losing their fertility, in addition to deciding whether there are

infertility reduction measures that are suitable for them. We are thankful Dr. Mark Messing volunteered his time to present on this important topic at the 5<sup>th</sup> Annual DFW Hereditary Colon Cancer Conference. This conference has been a great way for patients to stay informed about the most current and relevant happenings within the field of hereditary colon cancer.

As always, if you have any questions or would like to refer a patient to UT Southwestern's cancer genetics team in Dallas or in Fort Worth at the Moncrief Cancer Institute, please call (214)645-2563.

References used by Dr. Mark Messing:

- [SaveMyFertility.org](http://SaveMyFertility.org)
- [Fertilehope.org](http://Fertilehope.org)
- [Ovarian.org](http://Ovarian.org) National Ovarian Cancer Coalition
- [Cancer.org](http://Cancer.org) American Cancer Society
- [Wcn.org](http://Wcn.org) Women's Cancer Network
- [Myriadresourceguide.com](http://Myriadresourceguide.com)

Lindor NM, et al. Recommendations for the care of individuals with an inherited predisposition to LS: a systematic review. *JAMA* 2006;296:1507–17