

Ovarian Cancer – Overview of Risk

Ovarian cancer is the eighth most common cancer among women and is the fifth leading cause of cancer death among women in the United States. In 2008, it is estimated that 21,650 new cases of ovarian cancer will be diagnosed and 15,520 deaths due to ovarian cancer will occur.

In the general population ovarian cancer is rare. The lifetime risk of being diagnosed with ovarian cancer is 1.44% (1 in 69) compared to a more prevalent lifetime risk of breast cancer at 12% (1 in 8).

Several risk factors have been identified as affecting ovarian cancer risk. A family history of the disease or being a carrier of a genetic mutation are the greatest risk factors.

Women with a family history of ovarian cancer have a 5-7% lifetime risk of ovarian cancer. Approximately 5-13% of all ovarian cancers appear to be hereditary with the majority caused by genetic abnormalities in the BRCA1 or BRCA2 gene. The cumulative lifetime risk of ovarian cancer for individuals with BRCA gene mutations ranges from 15-65%. The risk for carriers with a BRCA1 mutation is estimated to be between 15-60% and the risk for carriers with a BRCA2 mutation is estimated to be between 10-27%.

Other factors associated with ovarian cancer risk include: no childbearing, age (over 55 years old), reproductive factors (infertility, early menarche and late menopause) and



obesity.

Race and ethnicity are associated with a higher incidence noted in Western cultures and Caucasians. Smoking history and the use of talc have also been associated with some types of ovarian cancer.

A decreased risk has been associated with prolonged use of oral contraceptives, breastfeeding, tubal ligation, hysterectomy, and prophylactic oophorectomy. (See table on page 2)

Ovarian Cancer Screening and Prevention

The goal of ovarian cancer screening is to diagnose ovarian cancer at an early stage when it is confined to the ovaries and easier to treat, thereby improving prognosis. For patients who are diagnosed with stage I ovarian cancer confined to the ovaries, the 5 year survival rate is greater than 90%. Unfortunately, 70% to 80% of patients presenting with ovarian cancer are diagnosed with advanced stage disease; with the 5 year survival rate ranging between 15-45% for these patients.

There is still no easy and reliable

screening test for ovarian cancer. For an ovarian cancer screening test to be effective it must be specific in identifying those who do not have ovarian cancer and sensitive enough to detect those who do have ovarian cancer.

Currently, there are no accepted screening methods or recommendations for ovarian cancer (continued on page 3)

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Fall 2008

Ovarian Cancer (OC) Risk Factors

Risk Factors

- **Age:** Risk increases linearly with age between ages 30 and 50 and continues to increase, though at a slower rate, thereafter. The mean age of diagnosis is 63.
- **Obesity:** A high BMI (body mass index) increases risk.
- **Hormone Replacement Therapy (HRT):** HRT is associated with an increased risk. Risk increases with length of use and may be different for estrogen-only therapy and combined HRT.
- **Family History of OC:** Having one first-degree relative (mother or sister) or 2 or more relatives with OC increases individual lifetime risk to 5-7%.
- **Inherited Genetic Mutation:** Several inherited cancer syndromes are associated with increased risk, including BRCA 1/2 mutations. Lifetime risk of OC ranges between 15-65% in women with a BRCA mutation.

Protective Factors

- **Multiparity and breastfeeding:** Having 1 or more children and breastfeeding reduce risk.
- **Oral Contraceptives:** Use of oral contraceptives reduces risk; 4 or more years of use is associated with a 50% reduction in OC in the general population. Oral contraceptive use may be protective among BRCA mutation carriers.
- **Prophylactic Oophorectomy and Salpingectomy:** Removal of the ovaries (oophorectomy) and fallopian tubes (salpingectomy) reduces risk by 80-90% and reduces breast cancer risk by 50-60% in BRCA mutation carriers.
- **Tubal Ligation and Hysterectomy:** Tubal ligation or hysterectomy (without oophorectomy) decrease risk by about 50%.

Osteoporosis Prevention in Premenopausal Women with Oophorectomy: GOG 215

The University of Vermont's College of Medicine Department of Gynecology Oncology is taking part in a research study through the Gynecologic Oncology Group for premenopausal women who have had both ovaries surgically removed. Women who have their ovaries removed before menopause will experience menopause due to the loss of estrogen in the body. This can cause a variety of side effects including bone loss leading to potential bone fractures.

The study randomizes women to Zometa or placebo for 18 months. Zometa is an intravenous bisphosphonate that helps to stabilize and increase bone mineral density in the hip and spine. Bone mineral density will be evaluated by DEXA scan twice during the study.

If you are interested in learning more about this study please contact Erica Nuzzo, VCC Research Coordinator, at 802-847-3453.

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that apply to the general population.

Screening is limited to women at high risk for ovarian cancer due to a family history or known genetic predisposition. Current recommendations for screening women with BRCA1 and BRCA2 gene mutations include transvaginal sonography and serum CA-125 every six to 12 months beginning between age 25 and 35.

Transvaginal sonography is a procedure to view the ovaries and fallopian tubes for abnormalities such as a tumor. CA-125 is a chemical found in the bloodstream that may be elevated when an ovarian tumor is present. CA-125 values are elevated in over 80 percent of women with ovarian cancer but the test may also be elevated in various benign conditions (pregnancy and pelvic inflammatory disease). Thus, even in high risk women, ovarian cancer screening is not always reliable.

Currently, women at increased familial or genetic risk for ovarian cancer are recommended to initiate high-risk screening or consider risk-reducing salpingo-oophorectomy (RRSO), a procedure that surgically removes the ovaries and fallopian tubes, after completing childbearing. RRSO has shown to reduce ovarian cancer risk by 80-96% in BRCA mutation carriers. It is important that women considering RRSO understand that there is still a small chance that ovarian cancer may develop in the lining of the abdomen or pelvic cavity.

To develop better screening tools and regimens for detecting ovarian cancer early more research is needed. Currently, there are two large clinical research trials involving women at increased risk for ovarian cancer underway in order to determine the most efficacious screening techniques and optimal screening regimen.

Chicken Tikka Masala

By Christopher Ryding in The CO-OP Advantage, October 2008

A delectable warming and aromatic dish for the Fall season. Enjoy!

Marinade

- 1 cup plain yogurt
- Juice from half a lemon
- 1 tsp. fresh chopped ginger
- 2 tsps. black pepper
- 1 tsp each of ground cumin, cayenne pepper, cinnamon and salt

Combine marinade ingredients and add 2 pounds of boneless chicken breast cut into 1-inch chunks. Refrigerate overnight.

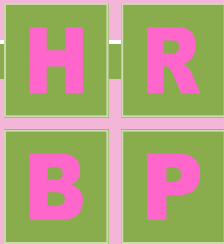
Sauce

- 3 tbsp. vegetable oil
- 1 medium onion, diced
- 1 serrano pepper, diced
- 2 tsps. garlic minced

- 2 tsps. fresh ginger minced
- 1 tsp. each of garam masala, ground cumin, paprika, coriander
- 1/2 tsp. salt
- 1 tbsp. tomato paste
- 1 cup tomato sauce
- 1 cup heavy cream

In large sauce pan, heat vegetable oil and sauté onions until translucent (about 5 minutes). Add the garlic, ginger, serrano pepper, garam masala, cumin and coriander and sauté 3 minutes more. Add tomato paste and simmer for 3 minutes. Add tomato sauce and heavy cream and simmer for 15 minutes.

While the sauce simmers, heat 2 tbsp. of vegetable oil in a heavy skillet over medium heat and sauté the marinated chicken, stirring often. Add the cooked chicken pieces to the warm sauce and mix well. Serve over basmati rice.



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11th Annual Vermont Breast Cancer Conference *Survive and Thrive*

The Vermont Cancer Center presents the 11th Annual Breast Cancer Conference on Friday, October 31, 2008 at the Sheraton Burlington Conference Center (870 Williston Road, Burlington, Vermont). This event is designed to meet the broad needs of survivors, caregivers, health care professionals, and the general public concerned about complex issues related to breast health and women's health, and provide opportunities to network with other survivors, caregivers, nurses, physical therapists, psychologists, and cancer researchers. This year's conference will celebrate survivors with a day-long series of workshops, lectures, seminars and activities that will inform, affirm, engage and inspire each of the attendees on their personal journey to "Survive and Thrive."

The sessions and exhibits are free due to the generous support of The Vermont-New Hampshire Affiliate of the Susan G. Komen Breast Cancer Foundation. For more information go to the Breast Cancer Conference's website at: <http://vtbreastcancerconference.org> or call 802-656-2292

