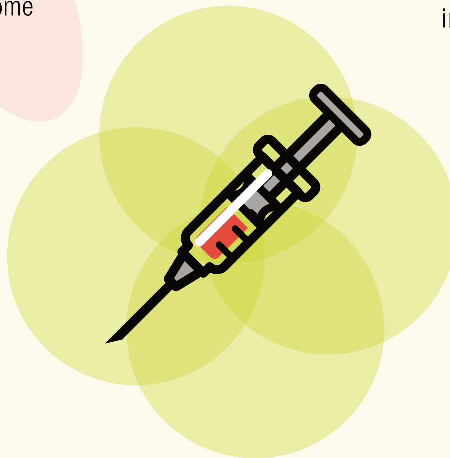
Abreast & the Rest Supplement

At your Cervix

By **Dr. Dianne Miller,** *MPH FRCSC*
Chair Gynecologic Tumour Group, BC Cancer Agency and University of British Columbia

Cervical Cancer is caused by a virus and there is a vaccine to prevent it. Cervical cancer is the second most common cancer of women world wide. In developed countries like Canada, PAP smear screening programs have helped decrease both the incidence and mortality from this disease. Over 99% of all cervical cancers are caused by the presence of the Human Papilloma Virus (HPV). HPV is always present in our population. Most sexually active women will have encountered at least one HPV sub-type during their sexual life. In most women our immune system is successful in controlling the virus and in fact many women will never experience any symptoms. For some women, there is persistence of the viral infection and it is these women who are at risk of developing abnormal PAP smears, cervical dysplasia (precancerous condition) and in the worst case, cervical cancer.

Though cervical cancer is not common in British Columbia it does account for about 200 cases per year. In one year 50 - 60,000 women will have an abnormal Pap smear and over 10,000 women will be referred for colposcopy (examine procedure). Of those women, approximately 6,000 will require a treatment to their cervix or uterus.



In 1949, British Columbia was the first province to establish a provincial screening program (pap tests) for the detection of cervical abnormalities. Although the screening program has been responsible for the overall decrease in incidence and mortality rates, cervical cancer deaths (particularly among younger age groups) still remain. In fact, the proportion of women under age 50 dying of cervical cancer is greater than for lung cancer or breast cancer. Women under the age of 50 represented 33% of cervix cancer deaths from 1990 to 1996 compared to 12.8% for breast cancer and 5.8% for lung cancer. The reasons behind this are numerous and include lack of participation in Pap smear screening on a regular basis. Lack of participation in screenings can be due to lack of education and information or other obstacles such as childcare responsibilities, employment or transportation issues. In spite of many efforts participation rates in screening in BC runs steady at about 75% of eligible women.

Like any screening test, Pap smear screening is not perfect, even though the incidence of cancer is much less in screened women about one third of the cancers of the cervix we see here in BC are in women who have been screened. The incidence (women who get the cancer) and mortality (women who die from the cancer) has remained essentially unchanged for the last 30 years.

ROLE OF THE VACCINE:

Knowing that the HPV virus is necessary for the development of cervical cancer has led to the development of Vaccines to protect women against HPV. Like any vaccine the ideal time to receive it is before you become infected. This is why vaccine is recommended to girls and young women prior to their becoming sexually active. These vaccines have been proven to be very safe and effective. There are currently two vaccines on the market in Canada. The bivalent vaccine covers two subtypes of HPV, 16 and 18 which are responsible for 70% of cervical cancers worldwide. The quadra-valant vaccine covers types 16 and 18 as well as HPV types 6 and 11 which are responsible for 90% of all genital warts. The quadra-valent vaccine is the one currently being administered in the school programs.

With the introduction of the vaccine program we expect to see a decrease in the number of abnormal pap smears and venereal warts in the next 5-10 years and a 70% decrease the number of cervical cancers in vaccinated women in the long term.

Ovarian Cancer: Exciting Discoveries

By **Dr. Jessica McAlpine**, *MPH FRCSC*
Gynecologic Oncology, University of British Columbia and BC Cancer Agency

Ovarian cancer is diagnosed in 1 in 70 women. It is the fifth most common cancer in women and the most lethal of the gynecologic malignancies. Despite great efforts, the incidence and mortality rates in ovarian cancer have changed minimally over the past 30 years. We have no good screening tests to offer women. All of this sounds quite gloomy. As awareness of ovarian cancer grows, the public is becoming well versed in the "negative" statistics and what we, as caregivers cannot achieve for our patients. We would like to share some of the exciting advances that have been made in ovarian cancer. These discoveries may not have made it in to Cosmo (yet) but provide a foundation of optimism we as caregivers and researchers are building on.

Histology

Ovarian cancer has long been considered a single disease entity. There are actually several different subtypes that are distinct by appearance, how they present, and how they respond to treatment. Understanding this classification system and creating a reproducible system of categorization has been a huge advance in this disease, not only for pathologists but also for clinicians designing and analyzing clinical trials where differences might otherwise be missed.

Fallopian tube as a site of origin

Encompassed in the appreciation of different histologic subtypes it is now believed that serous "ovarian" cancers (high grade serous cancers represent the largest category of ovarian/fallopian tube cancers) originate in the fallopian tube and then "spill" out the tube into the pelvis and abdomen. This revelation may explain why a protective benefit against ovarian cancer has been observed in women taking birth control pills or who have had a tubal ligation and has prompted global changes in practice. Pathologists now scrutinize the fallopian tube for early or hidden cancers, and as surgeons, we now offer risk reducing surgeries in women who have completed their childbearing (i.e., removal of the fallopian tubes, or removal of both ovaries and fallopian tubes).

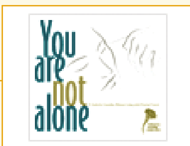
BRCA 1/2

The importance of BRCA1 and BRCA2 genes in hereditary breast and ovarian cancer has been appreciated for some time, but was believed to impact only a minority of ovarian cancer cases (5-10%). We now recognize that within serous histology at least half of cases have nonfunctioning BRCA 1 or BRCA 2. This has implications for genetic counseling, and therapy. In patients who lack function of these genes, conventional chemotherapy and targeted molecular therapy (see below) can be used and are more successful than in patients with normal BRCA function.

Molecular targeted therapy

The ability to "target" a specific molecular pathway unique to the histologic subtype of a tumor and spare normal tissue represents one of the most exciting advances in our field. PARP inhibitors, are a relatively new class of drugs that have been demonstrated to work in patients with loss of functioning BRCA. At the BC Cancer Agency we are actively participating in preclinical and clinical trials with these promising drugs. Another example can be found in mucinous ovarian cancer, a rare subtype of ovarian cancer. We have demonstrated that there is an increased presence of HER2 gene and its associated protein in ~ 20% of cases of mucinous ovarian cancer. HER2, is well known in the breast literature (predicts patient outcome and response to treatment, overexpression in ~15% of breast cancers). We have used therapy that targets HER2 in a small number of patients with HER2+ mucinous ovarian cancers with encouraging results. At present, we are validating these findings with a larger number of cases (contributed from across the globe) and are initiating a clinical trial to test the efficacy of HER2 targeted therapy in this patient population.

In short, our sophistication with this complicated disease is improving. We welcome readers to visit regional (BC Cancer Agency) and national websites (Ovarian Cancer Canada) for more information. (See Resource Section on Supplement Page 4A)



You Are Not Alone Guide

"You Are Not Alone" provides practical information throughout the ovarian cancer journey – from diagnosis, through treatment, support and survivorship.

Ovarian Cancer Canada continues to offer"You Are Not Alone" kits in English and French free of charge to newly diagnosed women and to organizations that will disseminate ovarian cancer information.

To obtain a kit, call 1-800 413 7970 or visit www.ovariancanada.org

Insight

INTO ENDOMETRIAL CANCER

Understanding Uterine / Endometrial Cancers

By **Dr. Janice S. Kwon**, *MPH FRCSC*
Gynecologic Oncology, University of British Columbia and BC Cancer Agency

Signs and Symptoms

Uterine (endometrial) cancer is the most common gynecologic malignancy and the 4th most common cancer affecting women in British Columbia/Yukon. Approximately 550 women are diagnosed every year. Although most women with endometrial cancer are postmenopausal, approximately 20% are under the age of 50. The most common symptom is abnormal vaginal bleeding, which usually prompts an endometrial biopsy or D&C for diagnosis. Standard treatment consists of removal of the uterus (hysterectomy) and both ovaries and fallopian tubes. Additional treatment such as radiation or chemotherapy is given based on the stage of disease and the presence of specific risk factors in the cancer.

Risk Factors

The most common risk factor for endometrial cancer is excess exposure to estrogen. This can be present in hormone replacement therapy (estrogen only, without progestin). It can also be present internally, in women who are obese and/or diabetic, and those who have a history of irregular menstrual periods. Women who have had breast cancer and take Tamoxifen are at increased risk of this cancer. Women who have been on the birth control pill and those who have had pregnancies are at lower risk.

Some women develop endometrial cancer because they have inherited a mutation that increases their risk of this cancer. Hereditary Non-Polyposis Colorectal Cancer syndrome (Lynch syndrome) is caused by an inherited mutation that is associated with a high lifetime risk of endometrial cancer and colorectal (bowel) cancer of 40-60%. Women with Lynch syndrome are also at risk for ovarian cancer.

The gynecologic cancers are usually diagnosed at a young age (average age of 42 for ovarian cancer, 48 for endometrial cancer). Women with HNPCC often have a strong family history of colorectal and/or endometrial cancer, with 3 or more members involved, in at least 2 generations, and at least 1 under the age of 50. These women should be referred to the BCCA Hereditary Cancer Program for consideration of genetic testing. If a woman is identified as having HNPCC, she will be advised to have prophylactic surgery to reduce her risk of endometrial and ovarian cancer. This surgery includes a hysterectomy and removal of both ovaries and fallopian tubes. Surgery is preferable to screening with ultrasounds and blood tests, which have not been shown to be effective. HNPCC is an uncommon syndrome, and it only accounts for about 2% of all endometrial cancers.

Prognosis and Treatment

The majority of women with endometrial cancer will be expected to survive their diagnosis (70% at 5 years). Follow-up after endometrial cancer usually consists of a history and physical examination. Special tests (blood work, pap smears, x-rays, scans) are not required at every follow-up visit, as most women who have a recurrence of this cancer will have symptoms or signs that prompt specific investigations. However, women with endometrial cancer are at increased risk of breast cancer and colorectal cancer, regardless of whether they have a family history. Therefore all women with endometrial cancer should be counseled on having mammograms every 2 years, and colorectal cancer screening (e.g., fecal occult blood test every 2 years). These will help to maximize long-term survivorship in women with endometrial cancer.

Summary

Uterine cancer (endometrial cancer) usually occurs after menopause, although about 20% of women are diagnosed under the age of 50. It is the most common gynecologic cancer in Canada. The most common symptom is unusual vaginal bleeding. Being obese and taking estrogen alone hormone replacement therapy also increase your risk. If you have unusual vaginal bleeding, or if you have started having any vaginal bleeding after menopause, please talk to your doctor.

Resource

Resources for Gynecologic Cancers

These resources are available from the BC Cancer Agency Library.
604.675.8001 or 1888.675.8001 local 8001 or www.bccancer.bc.ca

Books

Mayo Clinic guide to women's cancers / Hartmann, Lynn C; Loprinzi, Charles L - Rochester, MN: Mayo Clinic, 2005.

Women's cancers: how to prevent them, how to treat them, how to beat them 3rd ed. / McGinn, Kerry Anne; Haylock, Pamela J - Alameda, Ca. Hunter House Inc., Publishers, 2003.

Cancer sourcebook for women: 3rd ed. / Sutton, Amy L - Detroit, MI: Omnigraphics, 2006.

Women's cancers: pathways to healing / Smith, J. Richard; Del Priore, Giuseppe - London, UK: Springer-Verlag London Limited, 2009.

100 Questions and answers about cervical cancer / Dizon, Don S; DiSilvestro, Paul; Krychman, Michael L - Sudbury, MA: Jones and Bartlett Publishers, c2009.

100 Questions and answers about vulvar cancer and other diseases of the vulva and the vagina / Burrows, Lara J; Heller, Karen S - Boston, MA: Jones and Bartlett Publishers, 2009.

100 Questions and answers about ovarian cancer 2nd ed. / Dizon, Don S; Abu-Rustum, Nadeem R - Boston, MA: Jones and Bartlett Publishers, 2006.

Guide to survivorship for women with ovarian cancer / Montz, F. J; Bristow, Robert E - Baltimore, MD: Johns Hopkins University Press, 2005.

Ovarian cancer companion / Roth, Diane Sims - Burnstown, ON: General Store Publishing House, 2003.

You are not alone : a guide for Canadian women living with ovarian cancer rev. ed. / Fitch, Margaret I; Turner, Fran - Toronto, ON: Ovarian Cancer Canada, 2008
"You Are Not Alone" provides practical information throughout the ovarian cancer journey – from diagnosis, through treatment, support and survivorship. It addresses topics as diverse as coping with side effects of treatment, complementary and alternative therapies, talking to children about ovarian cancer, palliative care, financial issues, spiritual resources and intimacy. The book includes a recently updated and comprehensive resource section.

Ovarian Cancer Canada continues to offer"You Are Not Alone" kits in English and French free of charge to newly diagnosed women and to organizations that will disseminate ovarian cancer information.

To obtain a kit, call 1-800 413 7970 or visit www.ovariancanada.org

Ovarian cancer : your guide to taking control / Conner, Kristine; Langford, Lauren - Sebastopol, CA: O'Reilly & Associates, Inc. 2003.

Intimacy after cancer : a woman's guide / Kydd, Sally; Rowett, Dana - Redmond, WA: Big Think Media, Inc. 2006.

Woman cancer sex / Katz, Anne - Pittsburgh, PA: Oncology Nursing Society Hygeia Media, 2009.

DVD

In the family / Rudnick, Joanna - New York, NY: First Run Features, 2008.

We just heard : a video companion to "You are not alone: a guide for Canadian women living with ovarian cancer" / Ovarian Cancer Canada; National Ovarian Cancer Association - Toronto, ON: Ovarian Cancer Canada, 2007.

Internet

BC Cancer Agency www.bccancer.bc.ca

Ovarian Cancer Canada www.ovariancanada.org

Eyes on the Prize www.eyesontheprize.org
A online support site for women with gynecologic cancers.

MedlinePlus www.nlm.nih.gov/medlineplus/
Search under "Health Topics" for Cervical, Ovarian, Uterine, Vaginal and Vulvar cancers

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