

**2005 State of the State  
of Gynecologic Cancers**

*Third Annual Report to the Women of America*



**Gynecologic  
Cancer  
Foundation**

## About the Society of Gynecologic Oncologists and the Gynecologic Cancer Foundation

The Society of Gynecologic Oncologists (SGO) is a national medical specialty organization of physicians who are trained in the comprehensive management of women with female reproductive cancers. Gynecologic oncologists are obstetricians-gynecologists with an additional three to four years of training. SGO's purpose is to improve the care of women with gynecologic cancer by encouraging research, disseminating knowledge to raise the standards of practice in the treatment and prevention of gynecologic malignancies, and cooperating with other organizations interested in women's health care, oncology and related fields.

The Society's membership is primarily comprised of gynecologic oncologists, as well as other related medical specialists such as medical oncologists, radiation oncologists and pathologists. SGO members provide multidisciplinary care including chemotherapy, radiation therapy, supportive care and surgery.

For more information about SGO and the field of gynecologic oncology, please visit [www.sgo.org](http://www.sgo.org) or contact the Society at 312.644.6610.

The Gynecologic Cancer Foundation (GCF) was established by SGO in 1991 as a not-for-profit charitable organization to raise funds to support philanthropic programs to benefit women who have, or who are at risk for developing, a gynecologic cancer.

The mission of GCF is to ensure public awareness of gynecologic cancer prevention, early diagnosis and proper treatment, as well as to support research and training related to gynecologic cancers. GCF advances this mission by increasing public and private funds that aid in the development and implementation of programs to meet these goals.

For more information about GCF, its educational materials or research grants, please visit [www.thegcf.org](http://www.thegcf.org) or contact Executive Director Karen Carlson by phone at 312.578.1439 or by e-mail at [kcarlson@thegcf.org](mailto:kcarlson@thegcf.org). For additional information on gynecologic cancers or for a referral to a gynecologic oncologist or a related specialist, please call the toll-free GCF Information Hotline at 800.444.4441.

*GCF is a 501(c)(3) non-profit organization under the U.S. Internal Revenue Code.*



For more information about women's cancers, visit  
GCF's Women's Cancer Network Web site:

**[www.wcn.org](http://www.wcn.org)**

Log on for a confidential risk assessment to learn about your risk for developing women's cancers. Additional information of interest to women and cancer survivors is also available on the site.

# Table of Contents

- A Letter to the Women of America . . . . . i
- GCF-Research!America Poll Results . . . . . iii
- Commonly Asked Questions . . . . . 1
- Hereditary Gynecologic Cancers . . . . . 2
- Cervical Cancer . . . . . 5
- Ovarian Cancer: Epithelial . . . . . 8
- Ovarian Cancer: Germ Cell and Stromal Cell . . . . . 11
- Uterine Cancer: Endometrial . . . . . 14
- Uterine Cancer: Uterine Sarcomas . . . . . 17
- Vaginal Cancer . . . . . 19
- Vulvar Cancer . . . . . 21
- Acknowledgements . . . . . 23

# A Letter to the Women of America

In its third year of publication by GCF, the State of the State of Gynecologic Cancers is reaching women during a time of burgeoning grassroots activism for increased awareness and understanding about gynecologic cancers, as well as a time of hope for new methods of detection and prevention.

From the survivors who form local support groups to the women reading about gynecologic cancers for the very first time, this annual report offers all women an opportunity to learn about the risks they face, and how they can take action to maintain and/or improve their gynecologic health.

At GCF, we believe where there is knowledge, there is hope. In that spirit, we offer the 2005 State of the State of Gynecologic Cancers as means of education, inspiration and change.

Continuing readers of our annual report will note that we cover some familiar ground as well as some new territory in this report. Descriptions of each cancer, incidence rates, symptoms and risk factors are still included for all of the most deadly gynecologic cancers: ovarian, cervical, uterine, vaginal and vulvar cancers. Additionally, based upon interest from women, we have included a new section on hereditary cancers. For as GCF discovered when it conducted a poll with Research!America of 800 women about gynecologic cancers, most women understand that heredity can increase risk of developing a gynecologic cancer. This section is intended to shed more light on this subject for women.

Our poll findings also showed that a high percentage of women believe they are at risk for gynecologic cancers, and that women fear these cancers more than even lung cancer, which is the leading cause of cancer deaths among women. However, while women worry about gynecologic cancers, more than one-third of the women surveyed in our poll said they have little knowledge about them. This troubling mix—fear with lack of information—is why GCF continues to publish this report each year, and why it pursues direct outreach to women to advance awareness and knowledge.

It is also for this reason that this report contains information about critical medical and scientific advances in the field that offer hope to women suffering from these cancers or fearful of being diagnosed with one. Research and new technologies offer great opportunity for the prevention of cancer and this report documents some of the most critical trends.

I'd also like to note the ongoing efforts by physicians, survivors and advocates in the legislative arena that are aimed at encouraging additional government support of gynecologic cancer research, education and training:

- *Johanna's Law: The Gynecologic Cancer Education and Awareness Act of 2004* (S. 1172/H.R. 1245): More than 240 Members of Congress currently support Johanna's Law, which would

provide programs to increase a woman’s awareness and knowledge of gynecologic cancers, and would also include demonstration grants for outreach and education.

- *Patient Navigator Outreach and Chronic Disease Prevention Act of 2005* (S. 898/H.R. 1812) introduced by Senator Kay Bailey Hutchinson (R-TX) and Representative Robert Menendez (D-NJ) and signed into law on June 29, 2005, will provide for patient navigators who will facilitate and improve community health care.
- *Women’s Health Office Act of 2005* (S. 569/H.R. 949) introduced by Senator Olympia Snowe (R-ME) and Representative Carolyn Maloney (D-NY) would require the creation of separate “Offices of Women’s Health” within the Centers for Disease Control, the Health Resources and Services Administration, and the Food and Drug Administration to carry out specified activities relating to the health of women. A National Women’s Health Information Center would also be established through the Office of Women’s Health.
- *Healthy Families Act* (S. 932/H.R. 1902) introduced by Senator Edward Kennedy (D-MA) and Representative Rosa DeLauro (D-CT) would require employers with 15 or more employees to provide paid sick leave to ensure that Americans can address their own health needs and the health needs of their families.
- *Environmental Health Research Act of 2005* (S. 1500) introduced by Senator Mary Landrieu (D-LA) would require the National Institute of Environmental Health Sciences to develop multidisciplinary research centers regarding women’s health and disease prevention.

Finally, on the regulatory front, the FDA recently approved a labeling change for the liquid - based Pap test collection method known as ThinPrep. The labeling change acknowledges several years of evidence showing that Pap tests collected using ThinPrep technology are more reliable in detecting abnormalities arising from the mucous secreting gland cells of the cervix; a part of the cervix that has sometimes been missed by conventional Pap test methods.

I hope you find this report a useful and informative resource for you, and all women in your life, and that by reading it you learn the most powerful tool for maintaining your health resides within you—take action today. Simply make an appointment to see your doctor, discuss gynecologic cancers and get screened. It can be the first step to a lifetime of health.

Sincerely,



Karl C. Podratz, MD, PhD  
Chairman  
Gynecologic Cancer Foundation

## Gynecologic Cancer Foundation Research!America Poll Data\*

The results from a national poll commissioned by GCF and Research!America found a need for more education about gynecologic cancers. While more than one-half of women surveyed felt that they are at risk for developing a gynecologic cancer, an almost equal number of women were unaware of how to reduce risks for developing these cancers.

- 54 percent of women reported that they felt at risk for developing a gynecologic cancer during their lifetime.
- 47 percent of women could not name any symptoms of gynecologic cancers.
- 58 percent of women were unaware of any factors that decrease a woman's risk of developing a gynecologic cancer.
- One-third of women felt that they are not knowledgeable about gynecologic cancers.

\*Note: Charlton Research Company conducted a telephone survey in July 2005 with 800 adult women nationally using Random-Digit-Dial methodology. A sample size of 800 yields a theoretical margin of error of  $\pm 3.5$ .

---

Research!America is a not-for-profit membership-supported public education and advocacy alliance founded in 1989 to make medical and health research—including research to prevent disease, disability and injury and to promote health—a much higher national priority. Research!America has been gauging public opinion and attitudes toward medical, health and scientific research since 1992.

# Commonly Asked Questions

## What are gynecologic cancers?

Gynecologic cancers are the uncontrolled growth and spread of abnormal cells originating in the female reproductive organs, including the cervix, ovaries, uterus, fallopian tubes, vagina, and vulva.

## What causes gynecologic cancers?

Biomedical research has discovered that some classes of genes, called oncogenes and tumor suppressor genes promote the growth of cancer. You can acquire abnormal function of these genes during life (e.g., through smoking, aging, environmental influences) or you can inherit gene mutation from your parents and grandparents. In one instance — cervical cancer — cancer is caused by a sexually transmitted virus.

## Can gynecologic cancers be prevented?

Diet, exercise, and lifestyle choices play a significant role in the prevention of cancer. Additionally, knowing your family history can increase your chance of early diagnosis and can help you take action toward prevention. Screening and self-examinations conducted regularly can result in the detection of certain types of gynecologic cancers in their earlier stages, when treatment is more likely to be successful and a complete cure is a possibility.

## Who should treat gynecologic cancers?

Gynecologic cancers should be treated by a cancer specialist, such as a gynecologic oncologist. A gynecologic oncologist is a board-certified obstetrician/gynecologist who has an additional three to four years of specialized training in treating gynecologic cancers from an American Board of Obstetrics and Gynecology-approved program. This subspecialty program provides training in the biology and pathology of gynecologic cancers, as well as in all forms of treatment for these diseases, including surgery, radiation, chemotherapy and experimental treatments.

## How are gynecologic cancers treated?

Gynecologic cancers are treated by using one or more of the following options: surgery, radiation therapy, chemotherapy, and experimental treatments. The choice of therapy depends on the type and stage of the cancer.

## Who is at risk?

Any woman is at risk for developing a gynecologic cancer. Each year, approximately 79,480 women in the United States are diagnosed with cancers affecting the reproductive organs.<sup>1</sup>

---

<sup>1</sup> American Cancer Society. Cancer Facts & Figures, 2005. Available at: [http://www.cancer.org/docroot/STT/stt\\_0.asp](http://www.cancer.org/docroot/STT/stt_0.asp). Accessed August 5, 2005.

# Hereditary Gynecologic Cancers

## Cancer Genetics

In April 2003, 50 years after James Watson and Francis Crick's Nobel Prize winning description of the DNA double helix, the International Human Genome Sequencing Consortium announced the successful completion of the Human Genome Project: scientists from around the country had mapped the arrangement of all of the approximately 3 billion molecule pairs found in human DNA.

DNA (deoxyribonucleic acid) is a substance that contains the genetic blueprint for the control of all cells in the human body. The structure of DNA is similar to a spiral ladder and each "rung" is made up of a pair of molecules. Surprisingly, the message that directs a process as complicated as making a human is "written" in the DNA using just four different signal molecules. It is as if a huge instruction manual were written in a language with just a four letter alphabet. Mutations are errors in the sequence of the genetic alphabet that disrupt the instructions contained in the gene. Mutations can be inherited from a parent, or acquired during a person's lifetime. If mutations occur in genes that are important in controlling cell division and tissue growth, then loss of normal cell control in just one cell can be the beginning of a cancer. Familial or inherited cancer syndromes happen when gene mutations are passed from generation to generation in a family.

## Hereditary Gynecologic Cancer Syndromes

Approximately 10 percent of all human cancers have a strong hereditary component. (The remaining 90 percent are called sporadic, and are caused by environmental factors or have causes that we do not yet understand.) Two of the most common familial syndromes that cause gynecologic cancers are familial breast-ovarian cancer syndrome, and hereditary non-polyposis colorectal cancer syndrome (HNPCC).

**Familial Breast-Ovarian Cancer Syndrome:** In the United States, approximately 10 percent of women will develop breast cancer and 1.8 percent of women will develop ovarian cancer at some point in their lifetime. In contrast, women with familial breast-ovarian cancer syndrome have up to a 90 percent lifetime risk of developing breast and/or ovarian cancer.

These most common forms of the syndrome occur when family members inherit and pass on a mutation in the Breast Cancer 1 (BRCA1) or the Breast Cancer 2 (BRCA2) gene. Approximately 1 out of every 500 individuals in the general population has a mutation in one of the BRCA genes. In certain ethnic groups the mutation frequency is much higher (for example, one out of every 40 Ashkenazi Jewish individuals carry mutations). Both men and women can carry BRCA mutations and have a 50 percent chance of passing the mutation on to each of their children. A woman who inherits a mutation in the BRCA1 gene has an 80 percent lifetime risk of developing breast cancer, and a 20 to 40 percent chance of developing

ovarian cancer. Women with BRCA2 mutations also have an 80 percent lifetime risk of developing breast cancer, and a 10 to 20 percent chance of developing ovarian cancer. Women with mutations in the BRCA genes are also at increased risk for cancers in the fallopian tubes. Men who inherit BRCA2 mutations are at increased risk for developing breast cancer. Some other cancers also occur more frequently in individuals who carry BRCA2 mutations, including pancreatic cancer, prostate cancer, and melanoma.

Individuals concerned about a personal or family history of breast and/or ovarian cancers should talk to their physician about genetic counseling and possibly genetic testing. Genetic testing is performed using a blood sample and generally begins by focusing on a family member who has been diagnosed with breast or ovarian cancer. If a mutation in either BRCA1 or BRCA2 is found, other family members can then be tested to see if they also inherited the same mutation. Some women choose not to be tested, but still are considered high risk because of their family history. For women who are at high risk on the basis of a strong family history or a positive BRCA gene test, a spectrum of options exist, including clinical monitoring (mammograms, a blood test, pelvic ultrasounds), medications and lifestyle changes to reduce risk, and prophylactic (preventive) surgery.

The 2005 National Comprehensive Cancer Network (NCCN) panel recommended that women who carry BRCA mutations perform monthly self breast examination starting at age 18, have a clinical breast examination by a health care provider every six months, have annual mammography and/or breast MRI imaging starting at age 25 or earlier, and have an annual pelvic examination, a blood test known as CA125, and a transvaginal ultrasound of the ovaries starting at age 30-35 or earlier.

Several studies have suggested that ovarian cancer risk in BRCA carriers may be reduced by 50 to 60 percent by the use of oral contraceptive pills (OCPs) for at least five years, and many physicians now recommend use of OCPs to young BRCA mutation carriers. Two studies have also suggested that breast cancer risk in BRCA carriers may be reduced by use of the anti-estrogen medication Tamoxifen.

Although Tamoxifen, and other medications may reduce risk of breast cancer in high-risk women, the most effective risk-reducing interventions for women at risk for hereditary breast and ovarian cancer is surgical removal of breast tissue (prophylactic mastectomy), ovaries and fallopian tubes (prophylactic salpingo-oophorectomy). Prophylactic surgery appears to reduce the risk of breast cancer by approximately 90 percent and ovarian cancer by approximately 99 percent. Each of these surgical options should be considered on a case-by-case basis. Before embarking on surgery, it is important that women discuss with their physician the possible psychological consequences, impact on fertility, surgical risks, and need for management of menopause symptoms and health effects that may arise.

**Hereditary Non-Polyposis Colorectal Cancer Syndrome (HNPCC):** The HNPCC (also known as Lynch II) syndrome is an inherited predisposition to certain cancers caused by mutation of one of the genes that is responsible for repair of damaged DNA. Patients with HNPCC have higher than average risk of cancers of the colon, lining tissue of the uterus (endometrium), ovary, stomach, small intestine, liver, brain, and urinary system. The lifetime risk of ovarian cancer and uterine endometrial cancer for women with HNPCC syndrome is approximately 10 percent and 40 percent, respectively. Multiple members of a gene family have been implicated in this hereditary syndrome, most notably hMSH2 and hMLH1. When a member of this family of genes is mutated, the every day damage that happens in DNA cannot be repaired. Eventually the regulation of cell growth becomes uncontrolled in a cell due to DNA damage, and a cancer begins to grow from that damaged cell.

Genetic testing is available for the mutations that cause HNPCC. Women concerned about their personal or family history for the cancers mentioned above, especially a combination of colon and endometrial cancers, should ask about genetic counseling to find out what testing is appropriate for them.

Like women with BRCA mutations, women with HNPCC should be monitored carefully by their health care provider. Current recommendations for women with the HNPCC syndrome include evaluation of the colon by colonoscopy at age 20 to 25 or younger, repeated every one to two years. Women should also be advised to consider having the CA125 blood test and transvaginal ultrasound to inspect the ovaries and a biopsy of the lining of the uterus (endometrium) annually beginning at age 25 to 35 years. If a woman with HNPCC requires surgical removal of the colon (colectomy) because of cancer or pre-cancer changes, then it is appropriate to remove the uterus and ovaries at the same time (prophylactic total abdominal hysterectomy and bilateral salpingo-oophorectomy) to reduce the risk of ovarian and endometrial cancer.

## Conclusion

The discovery of the genes responsible for hereditary gynecologic cancer syndromes represents an exciting advance. The ability to perform genetic testing allows the women at highest risk to consider options for prevention and early detection. Although there have been concerns about the possibility of genetic discrimination against BRCA carriers with respect to employment and insurance, there have been no widely publicized instances in which such discrimination has occurred. As genetic information becomes more widely available, and is increasingly integrated into clinical practice, it will be essential for each woman to discuss her own personal risk factors with her physician so that a personalized management plan can be established. Any woman who has concerns regarding her family history of cancer should talk to her physician about genetic evaluation and prevention opportunities.

# Cervical Cancer

## State of Cervical Cancer

*Cervical cancer is cancer that begins in the cervix, the part of the uterus or womb that opens to the vagina. Cervical cancer is caused by abnormal cellular changes in the cervix and is the only gynecologic cancer that can be prevented by regular screening. It usually affects women between the ages of 30 and 55 but has been found as early as the teen years.*

---

*Symptoms:* Bleeding after intercourse, excessive discharge, and abnormal bleeding between periods.

*Risk factors:* Failure to receive regular examinations often eliminates the opportunity for early diagnosis through cervical cancer screening. Infection with persistent high-risk human papillomavirus (HPV) has been shown to be the cause of virtually all cervical cancers, though other risk factors include smoking, HIV infection, and early age of first intercourse.

*Screening/Prevention:* Over the last 50 years, routine use of the Pap test to screen for cervical cancer has reduced deaths from the disease by 74 percent.<sup>2</sup> A Pap test is the standard way physicians check to see if there are any cell changes that might cause concern. The Pap test involves looking at a sample of cells from the cervix under a microscope to see if there are any cells that are abnormal. It is a good test for finding not only cervical cancer cells, but also cells that might become cancerous in the future.

Usually, health care providers perform the Pap test as part of a routine pelvic exam. It is important for women to know if a Pap test was performed because it's possible to have a pelvic exam without a Pap test. It is also important that women know and understand the meaning of their Pap test results, and follow through with any recommendations made by their health care provider.

In March 2003, the Food and Drug Administration (FDA) approved a new approach to cervical cancer screening for women 30 years of age and older — the use of the Hybrid Capture II HPV test in conjunction with the Pap test. This test combines a Pap test with the test for cancer-causing, or high-risk, HPV. This test is useful because if both the Pap test and HPV tests are negative, then the next Pap test may be delayed for three years. The HPV test can also be performed to help interpret an equivocal Pap test result, ASCUS, which stands for “atypical squamous cells of undetermined significance.” If the HPV test is positive in a woman with an ASCUS Pap result, she should undergo further testing for precancerous cells with a colposcopy examination.

---

<sup>2</sup> American Cancer Society. Detailed Guide: Cervical Cancer. *What Are the Key Statistics About Cervical Cancer?* Available at: [http://www.cancer.org/docroot/cric/cric\\_2x.asp](http://www.cancer.org/docroot/cric/cric_2x.asp). Accessed August 5, 2005.

*Incidence:* An estimated 10,370 cases of invasive cervical cancer are expected to be diagnosed and approximately 3,710 deaths in 2005.<sup>3</sup> During 1992–1996, cervical cancer mortality rates declined on average about 2.1 percent per year in the U.S.<sup>4</sup>

## Advances in Cervical Cancer

The prevention and treatment of cervical cancer remain an active and fruitful area of research. Over recent years progress has been reported in the development of a vaccine to prevent cervical cancer. This year brought continued progress, though a vaccination to prevent HPV is not yet available outside of clinical trials.

A recent report described a randomized trial involving 277 women assigned to treatment with a vaccine containing four different HPV types and 275 women who received a placebo. Over 30 months of follow-up, four women in the vaccinated group acquired infection with one of the targeted HPV types compared to 35 women in the placebo group. None of the women in the vaccine group developed precancerous changes of the cervix compared with three of the women in the placebo group. These differences show that the vaccine is highly effective against the targeted HPV types, which should translate into protection from invasive cervical cancer. This study also demonstrated that the vaccine is safe. Pain at the injection site and headache were common in both the vaccine and placebo groups, but there were no serious vaccine-related side effects reported. Finally, this report, and other reports from vaccine trials, are demonstrating that widespread HPV vaccination will probably have added benefit in reducing the cost and anxiety associated with management of Pap test abnormalities, in addition to the cancer prevention effect.

Women are slowly becoming educated about the link between HPV infection and cervical cancer. At the 2005 Society of Gynecologic Oncologists Annual Meeting on Women's Cancer™ an interesting study found that 69 percent of women with a daughter would consent to having her vaccinated against HPV if such a vaccine were available. Interestingly, a personal history of an abnormal Pap test did not affect the mother's answer, perhaps because many women are still not fully aware of the association between HPV infection, Pap test abnormalities and invasive cervical cancer. A recent review of men's perceptions and knowledge about HPV infection demonstrated that men who understood that HPV could have serious health consequences for women reported an intention to reduce the number of partners with whom they have intercourse. These findings support the need to educate both men and women about the consequences of HPV infection.

---

<sup>3</sup> American Cancer Society. Detailed Guide: Cervical Cancer. *What Are the Key Statistics About Cervical Cancer?* Available at: [http://www.cancer.org/docroot/crci/crci\\_2x.asp](http://www.cancer.org/docroot/crci/crci_2x.asp). Accessed August 5, 2005.

<sup>4</sup> Ibid.

Progress is also evident in the care of women with invasive cervical cancer. New and improved methods to view the inner body hold promise for better evaluation and monitoring of women with cervical cancer. At the time of this publication, the results of a study that compares the ability a CT scan versus an MRI scan performed prior to surgery to correctly measure the size, extent, and location of a cervical cancer are not yet available, but are expected soon. Recently, a summary report of 15 prior studies of PET scans concluded that there is good evidence that PET is useful in detecting lymph node metastases in women with cervical cancer. This is important because a reliable non-surgical way to diagnose lymph node metastases can help women avoid unnecessary surgery.

When surgery is advised, it is imperative that the surgeon strive for the best possible cancer treatment results with the least impact on the patient's life. Significant work is underway to try to achieve that goal. One of the newer surgical techniques for treatment of cervical cancer involves laparoscopic surgery combined with vaginal surgery as an alternative to surgery requiring a large abdominal incision. A recent comparison of these two surgical approaches suggested that the combined laparoscopic plus vaginal approach resulted in less blood loss and shorter hospital stays.

A second important surgical advance involves continued progress in fertility sparing surgery for women with invasive cervical cancer. This year a Canadian group reported pregnancy outcomes from 50 consecutive pregnancies in women treated with a surgical procedure known as radical trachelectomy. The upper uterus is preserved in this surgery, so that pregnancy is possible after surgical healing. In this study, of the 72 women who had a radical trachelectomy, 31 became pregnant and only three reported infertility. (The others had a variety of other reasons for not conceiving, most often that they did not wish to conceive). Eight of the pregnancies ended in miscarriage, but happily, the majority of women delivered full-term babies. Babies were delivered prematurely in only three of the 50 pregnancies.

With advances in cervical cancer screening and prevention, it is hoped that the time is nearing when this cancer will no longer be a significant threat to the health of American women. The cervical cancer screening tests available in the United States today represent a huge advance in cancer screening examinations.

# Ovarian Cancer: Epithelial

## State of Epithelial Ovarian Cancer

*Ovarian cancer, the seventh most common cancer among women,<sup>5</sup> usually arises on the surface of the ovary in the epithelial cells. About 85 to 90 percent of ovarian cancers are epithelial ovarian cancers.<sup>6</sup>*

---

*Symptoms:* Changes or discomforts, such as a pressure or fullness in the pelvis, abdominal bleeding, or changes in bowel and bladder patterns, which are constant and progressive.

*Risk factors:* The risk of epithelial ovarian cancer increases with age, especially around the time of menopause. A family history of epithelial ovarian cancer is one of the most important risk factors. Infertility and not bearing children are also risk factors, while pregnancy and use of birth control pills can decrease the risk of developing epithelial ovarian cancer.

*Screening/Prevention:* Currently, there is no widely accepted and effective screening test for epithelial ovarian cancer. Recently there has been intense interest in utilizing a method called proteomics to screen for ovarian cancer. Specifically, information about a new test called Ovachek™ has recently been reported in the media. Proteomics involves the analysis of proteins in the blood. The protein patterns of patients with ovarian cancer are compared to the pattern of women without cancer to learn which changes can be used to diagnose ovarian cancer. Many doctors and scientists agree that at this time, additional studies are needed before doctors or patients will truly understand the meaning of a positive or a negative proteomics test for ovarian cancer.

Underscoring this opinion, SGO issued a position statement on this topic stating that the Society remains committed to the goal of effective screening and early detection, but that recently developed tests require validation prior to endorsement.

*Incidence:* Ovarian cancer ranks fourth in cancer deaths among women and causes more deaths than any other cancer of the female reproductive system.<sup>7</sup> It is estimated there will be more than 22,220 new cases diagnosed and approximately 16,210 deaths from ovarian cancer in the U.S. during 2005.<sup>8</sup>

---

<sup>5</sup> American Cancer Society. Detailed Guide: Ovarian Cancer. *What Are the Key Statistics About Ovarian Cancer?* Available at: [http://www.cancer.org/docroot/CRI/CRI\\_2\\_3x.asp?dt=33](http://www.cancer.org/docroot/CRI/CRI_2_3x.asp?dt=33). Accessed August 5, 2005.

<sup>6</sup> American Cancer Society. Detailed Guide: Ovarian Cancer. *What is Ovarian Cancer?* Available at: [http://www.cancer.org/docroot/CRI/CRI\\_2\\_3x.asp?dt=33](http://www.cancer.org/docroot/CRI/CRI_2_3x.asp?dt=33). Accessed August 5, 2005.

<sup>7</sup> American Cancer Society. Detailed Guide: Ovarian Cancer. *What Are the Key Statistics About Ovarian Cancer?* Available at: [http://www.cancer.org/docroot/CRI/CRI\\_2\\_3x.asp?dt=33](http://www.cancer.org/docroot/CRI/CRI_2_3x.asp?dt=33). Accessed August 5, 2005.

<sup>8</sup> Ibid.

## Advances in Epithelial Ovarian Cancer

Around the globe, a dedicated network of passionate individuals and physicians is searching for improved diagnostic and therapeutic options for women with ovarian cancer. Although the cure remains elusive today, progress is evident.

Early diagnosis is an important goal for ovarian cancer because chances for long-term survival are intimately tied to the extent of disease at diagnosis. Over the past year, several research groups have reported potential new and hopeful markers. The individual markers are categorized with unusual names, such as sEGFR, IGF II and CKB, and typically can be measured from a blood test. A branch of investigation known as proteomics seems to hold promise for a future test that may look at hundreds of blood proteins at one time to determine a characteristic “signature” that may signal ovarian cancer at the earliest stages. Several individual markers, currently under investigation, may some day be used in a panel test to screen for ovarian cancer. The continued progress in refining tests and reporting new markers over the past year has almost certainly shortened the time when a reliable clinical test will be available for early detection of ovarian cancer. However, at this time it is not clear which markers or methods will be sufficiently accurate and inexpensive for routine screening in the future.

Without doubt, the families who are most anxious for a screening test are those with a genetic risk for breast and ovarian cancer. Therefore, it is important to note that progress has been made in understanding these syndromes. For example, a study published in late 2004 helped to quantify the protective effects of birth control pills on ovarian cancer risk in women with known mutations in the cancer associated with genes BRCA1 and BRCA2. More than 400 women with known mutations were studied and the pattern of birth control pill use was compared between the women who were diagnosed with ovarian cancer and the women who were not. The risk of ovarian cancer dropped by about 5 percent for each year that birth control pills were taken.

A second study of high-risk families looked at the outcomes in women who had surgery to remove their ovaries in hopes of preventing ovarian cancer. Rarely, and most often in those with a gene mutation, women can develop a cancer that behaves in every way like ovarian cancer even though their ovaries have been removed. (This cancer is called primary peritoneal cancer.) In this recent study of 238 women who had surgical removal of their ovaries, 5 women subsequently developed this unusual primary peritoneal cancer after an average of 9.5 years of follow-up. All of the women who developed the cancer in this series had BRCA1 mutations, suggesting that this gene may be associated with higher risk than BRCA2 gene mutations. Although the occurrence of this ovary-like cancer is disturbing, it should not overshadow the good news. Overall high-risk women who undergo surgical removal of their ovaries enjoy a substantial reduction in risk of ovarian cancer compared to high-risk women who do not have the surgery.

All women with pelvic masses deemed suspicious for ovarian cancer are advised to have an evaluation by a gynecologic oncologist. A report released this year shows that recently published guidelines on the treatment of ovarian cancer can substantially improve the chances that women with ovarian cancer are appropriately referred to a gynecologic oncologist. For postmenopausal women, referral is recommended whenever any of the following high-risk features are present: CA-125 over 35 U/mL, fluid in the abdomen or pelvis (ascites), a mass that feels irregular or fixed, a family history of breast or ovarian cancer, or an imaging study (such as a CT scan) that suggests tumor spread. This study found that if physicians followed these guidelines, 94 percent of postmenopausal women with ovarian cancer would be appropriately referred to a gynecologic oncologist for their initial surgery.

Regarding surgical treatment of ovarian cancer, results from an important clinical trial were reported late last year. The goal of initial surgery for women with ovarian cancer is to remove as much tumor as possible. If tumor spots larger than 1 centimeter (about the size of a dime) cannot be removed during the first surgery, it is less likely that the cancer can be driven into remission with chemotherapy.

The best way to help these women fight their disease has been uncertain. Some physicians have advised chemotherapy, while others have advised a combination of chemotherapy and a second surgery. In the trial reported in December 2004, women were randomly assigned to one of these two treatment strategies. The progress of the cancer was found to be identical in the two groups. This important study will help future ovarian cancer patients avoid the difficulty of having two major surgeries over a short time.

Finally, a series of new agents, and new combinations and schedules of older agents, have been tested in hopes of finding a better treatment for ovarian cancer. Clinical trials are now expanding to include agents that block critical pathways known to induce or maintain cancer growth. This is the exciting result of years of study of complex molecular pathways. Designer antibodies such as pertuzamab and bevacizumab are showing early promise for tumor control. Large multicenter chemotherapy trials, including an important trial of intraperitoneal chemotherapy, have completed patient enrollment and results are expected to be released in the next year. The intensive investigative effort is yielding results thanks to the volunteer participants in these trials who help build the pathway to a cure for this disease.

# Ovarian Cancer: Germ Cell and Stromal Cell

## State of Germ Cell and Stromal Cell Cancer

*Stromal cell cancer is an uncommon form of ovarian cancer that starts in the cells that produce female hormones and hold the ovarian tissues together. Germ cell cancer starts in the cells that form eggs in the ovary.*

---

*Symptoms:* Stromal cell and germ cell cancers can cause pain or discomfort at the beginning stages. Stromal cell tumors can secrete hormones like estrogen or testosterone, and cause symptoms of abnormal uterine bleeding, new onset acne and facial hair growth. Germ cell tumors can become very large and can cause pain or abdominal distension. Such germ cell tumors may produce HCG, the pregnancy hormone, leading to a false positive pregnancy test.

*Risk factors:* There are no known risk factors for stromal cell and germ cell cancer.

*Screening/Prevention:* There are no known prevention measures for stromal cell and germ cell cancer. Abnormal enlargement of an ovary might be noticed at the time of an annual pelvic examination, increasing the chance for early diagnosis and treatment.

*Incidence:* Only about 5 percent of ovarian cancers are stromal cell cancers and less than 5 percent of ovarian cancers are germ cell cancers.<sup>9</sup> Stromal cell cancers are the most common hormonally active tumors.<sup>10</sup> Germ cell cancer is usually found in adolescent girls and young women. Both stromal cell and germ cell cancers usually affect one ovary and most often are found at early stages.

## Advances in Germ Cell Ovarian Cancer

Since the introduction of combination chemotherapy in the mid-1960s, the chance for a cure for girls and young women with cancerous ovarian germ cell tumors has changed from very poor to excellent, making this disease one of the most extraordinary success stories in contemporary medicine. In contrast to epithelial ovarian cancer, approximately 60 percent of germ cell tumors are diagnosed with stage I disease, with a cure rate approaching 100 percent. Even for patients with advanced stage disease, the cure rates are over 75 percent.

---

<sup>9</sup> American Cancer Society. Detailed Guide: Ovarian Cancer. *What is Ovarian Cancer?* Available at: [http://www.cancer.org/docroot/CRI/CRI\\_2\\_3x.asp?dt=33](http://www.cancer.org/docroot/CRI/CRI_2_3x.asp?dt=33). Accessed August 5, 2005.

<sup>10</sup> Women's Cancer Network. *Ovarian Cancer Statistics*. Available at: <http://www.wcn.org/interior.cfm?diseaseid=8&featureid=1>. Accessed August 5, 2005.

Standard therapy for these tumors consists of surgery followed by chemotherapy. Because these tumors are usually confined to one ovary, it is usually possible to preserve the uterus and one ovary so that future pregnancy is possible. However, the success associated with postoperative chemotherapy comes with the risk of serious side effects, including a 20 to 30 percent partial or complete loss of ovarian function, early menopause and a small risk of leukemia. Thus, the major challenges include learning more about the biology of these rare tumors, identifying the patients who might be able to skip chemotherapy, and discovering new therapies with significantly less toxicity.

In 2004, investigators from Norway and the United Kingdom examined the DNA content in tumor cells and found that if the total amount of DNA in tumor cells was different from the amount expected in human cells (a condition termed aneuploidy), the patients did worse. They also found that if they considered the presence or absence of abnormal DNA content in addition to the tumor stage and grade, they could predict treatment outcomes better than if they considered stage and grade alone. Clearly, further studies of the genetics of germ cell tumors are needed to begin separating germ cell tumors into good-prognosis tumors (that might not require chemotherapy) and poor-prognosis tumors.

The Children's Oncology Group (COG) has recently launched a study that will soon be supported by the Gynecologic Oncology Group (GOG). In this trial, low-risk patients with early stage germ cell tumors of the ovary or testis will be closely monitored using blood tests to determine if there are abnormal tumor proteins. Patients, who will all have received chemotherapy in the past, will receive chemotherapy only if there is recurrence of tumor or if the blood tests show abnormal tumor proteins. In a related effort to reduce severe side effects, carefully selected patients who do require chemotherapy will receive a three-day course of a three-drug combination called BEP, rather than the traditional standard of five days with each cycle.

For those few patients whose primary germ cell tumor therapy fails, chemotherapy has been found to be only partially effective. Early information about a new way to treat patients who relapse was published this year in a study from Taiwan. A treatment option called high-dose chemotherapy has been successful in patients with relapsed testicular cancer, but data from patients with ovarian germ cell tumors is limited. In this recent report, two patients who received high-dose chemotherapy for recurrent germ cell tumors went into remission, whereas five patients who received conventional chemotherapy had progression of their tumor. However, high-dose chemotherapy has real risks, and more experience with this approach is needed to make a definitive conclusion about the role of high-dose chemotherapy for these patients.

## Advances in Stromal Ovarian Cancer

Like ovarian germ cell tumors, stromal tumors of the ovary are rare, accounting for only about 5 percent of all ovarian cancers. However, stromal tumors tend to be slow growing tumors and, although they are less likely to recur, they display less sensitivity to chemotherapy. These tumors can recur 10 to 15 years or more after first diagnosis. The most common type of stromal tumor is granulosa cell tumor. A special subtype, the juvenile granulosa cell tumor, principally occurs in girls, whereas the more common adult type may occur at any age, most commonly in the postmenopausal age group.

Over the past year, there have been a few notable contributions to the clinical management of stromal tumors. An analysis of 83 women with stromal tumors concluded that age (50 or younger), smaller tumor size, and complete surgical removal of the tumor are important predictors of improved survival. Another group reported experience with 44 patients with stromal tumors who were treated with taxane chemotherapy, demonstrating promising activity of these agents. This latter observation suggests that a future study of the combination of paclitaxel and carboplatin is warranted because of the toxicity associated with the most common chemotherapy used for these tumors — BEP.

Ovarian germ cell tumors and stromal tumors are rare. More understanding is needed to better determine the cause and molecular biology of these cancers, and to develop more effective and less toxic therapeutic options. The recent establishment of a Rare Tumor Committee by the GOG will hopefully facilitate continued progress in research of both germ cell tumors and stromal tumors.

# Uterine Cancer: Endometrial

## State of Endometrial Cancer

*Most uterine cancers begin in the lining of the uterus (endometrium) after menopause, when a woman's menstrual cycle ends and the endometrium flattens out. Uterine cancer occurs when cells in the endometrium lining grow out of control and invade the muscle of the uterus.*

---

*Symptoms:* Warning signs include any bleeding after menopause or irregular vaginal bleeding before menopause.

*Risk factors:* Risk factors include obesity, hypertension, diabetes, inappropriate estrogen use, tamoxifen use and late menopause. Women who have not been pregnant also have a slightly higher risk for endometrial cancer.

*Screening/Prevention:* Currently, other than yearly pelvic exams, there are no screening tests for endometrial cancer that are recommended on a routine basis. A woman may lower her risk for developing endometrial cancer by exercising regularly and eating a healthy diet. Keeping blood sugar and blood pressure under control also helps lower the risk. Women with unexpected postmenopausal bleeding or heavy, prolonged or unexpected bleeding during the menstruating years should have an endometrial biopsy to check for endometrial cancer. A Pap test does not screen for endometrial cancer.

*Incidence:* Cancer of the endometrium is the most common cancer of the female reproductive organs. It is estimated that 40,880 new cases will be diagnosed and approximately 7,310 deaths from uterine cancer in 2005.<sup>11</sup>

## Advances in Endometrial Cancer

In 2005, there were several important scientific reports dealing with endometrial cancer. First, this was an important year of progress for the surgical treatment of endometrial cancer.

Published study results from major medical centers including Ohio State University, Duke University and Mayo Clinic each support the value of lymphadenectomy (surgical removal of lymph nodes in the region of the cancer) for most patients with endometrial cancer. Collectively these studies show that lymphadenectomy provides important information to guide treatment decisions, and that lymphadenectomy appears to improve survival for patients with more advanced or high-grade tumors. These studies are some of the most recent contributions to

---

<sup>11</sup> American Cancer Society. Detailed Guide: Endometrial Cancer. *What Are the Key Statistics for Endometrial Cancer?* Available at: [http://www.cancer.org/docroot/CRI/CRI\\_2\\_3x.asp?dt=11](http://www.cancer.org/docroot/CRI/CRI_2_3x.asp?dt=11). Accessed August 5, 2005.

an ongoing debate about the nature of the surgery best able to achieve a cure for patients with endometrial cancer. To end the debate, a team of experts from SGO and the American College of Obstetrics and Gynecology (ACOG) published guidelines for the care of women with endometrial cancer in August 2005. These guidelines represent a major commitment on the part of both professional organizations to improve the care of women with endometrial cancer.

Encapsulating the results of years of studies, the guidelines state that lymph node assessment is a critical component of surgical staging and is associated with improved survival. The importance of this recommendation cannot be overstated because it may change the location of treatment for women with endometrial cancer.

Fortunately, most women with endometrial cancer are diagnosed early, and surgery alone is often adequate for cure. However, when the tumor is more deeply invasive or has spread beyond the uterus, chemotherapy and radiation therapy are usually advised. The newly published guidelines review recommended therapies for women found to have more advanced disease.

This year, results from several cooperative studies provided additional guidance for treatment of advanced endometrial cancers. A study from the GOG reported on the effectiveness of radiation treatment to the entire abdomen and pelvic area following surgery for advanced endometrial cancer that had spread to the abdomen or to lymph nodes. The study showed that although this treatment is associated with multiple side effects, many patients did well for years after treatment and almost one-third were still cancer free three years after treatment.

A second study from the Southwest Oncology Group (SWOG) tested the use of two chemotherapy drugs, paclitaxel and carboplatin, combined with amifostine (to reduce toxic effects on the bone marrow and nerves) for treatment of patients with advanced or recurrent endometrial cancer. The response rate for this combination treatment appears to equal any combination now available, and this combination had a lower risk of serious and life-threatening side effects.

In addition to these reports, early results from several noteworthy studies were reported at the SGO's Annual Meeting and at the American Society of Clinical Oncology's meeting:

- A University of Pennsylvania study shows that the anti-estrogen drug raloxifene does not increase the risk of uterine endometrial cancer, and therefore may be preferred over tamoxifen for some women undergoing anti-estrogen treatment for breast cancer.

- Two studies from Walter Reed Army Medical Center that support the existence of important biologic and genetic differences in endometrial tumors from African-American and Caucasian women.
- A Japanese Oncology Group study shows that women with stage II through III endometrial cancer had better tumor control with combination chemotherapy compared to women treated with radiation therapy.

Look for more published results about these studies over the coming months and years.

All of the studies above demonstrate continued progress in endometrial cancer therapy. The steady progress in understanding the biology of this disease, coupled with continued commitment to the application of optimal clinical care, should give rise to hope for all affected women and their families.

# Uterine Cancer: Uterine Sarcomas

## State of Uterine Sarcomas

*Uterine sarcomas are a type of uterine cancer in which cancer cells form in the muscle of the uterus (leiomyosarcoma) or its connective tissue (endometrial stromal sarcoma) instead of the lining (endometrium). Some women may also develop mixed tumors that contain elements of malignant endometrial and stromal cells (carcinosarcomas). These tumors account for less than 5 percent of all uterine cancers, but behave much more aggressively than their more common counterparts (endometrial cancers).<sup>12</sup>*

---

*Symptoms:* Abnormal vaginal bleeding is the most common symptom in women with uterine sarcomas. Leiomyosarcomas can produce pelvic pain or pressure. In addition, fibroids that grow rapidly, especially during the post-menopausal period, should raise the suspicion of a leiomyosarcoma.

*Risk Factors:* Sarcomas have been reported to occur more frequently in women with a history of previous pelvic radiation therapy. A 10-year review of national statistics was published this year confirming that the incidence of these rare malignancies is twice as high in black women as in other races.

*Screening/Prevention:* Due to their rarity, there is no proven effective screening method for these cancers. In addition, there are no known methods of prevention available for this disease.

*Incidence:* There are approximately 40,880 cases of uterine cancer annually, and sarcomas comprise two to four percent of these cases.<sup>13</sup>

## Advances in Uterine Sarcomas

Several treatment advances have occurred in the areas of surgery, chemotherapy and radiation therapy for uterine sarcomas. The progress in sarcoma care has been made possible through clinical trials performed by national and international collaborative groups, and by surveys of medical records collected over decades at large medical centers.

Surgery is an important component of the treatment of uterine sarcomas. Two recently reported investigations support the need for expert surgery in the treatment of these diseases. Specifically, for a tumor type known as high-grade endometrial sarcoma, efforts to remove as much tumor as possible were reported to be associated with improved survival.

Another review looked at the value of surgery for women with a tumor known as

---

<sup>12</sup> American Cancer Society. Detailed Guide: Uterine Sarcoma. *What Are the Key Statistics for Uterine Sarcoma?* Available at: [http://www.cancer.org/docroot/CRI/CRI\\_2\\_3x.asp?dt=63](http://www.cancer.org/docroot/CRI/CRI_2_3x.asp?dt=63). Accessed August 5, 2005.

<sup>13</sup> Ibid.

leiomyosarcoma, and found that surgery appeared to be beneficial (in addition to chemotherapy) for treatment. While these results may seem expected, the association between more intensive surgery and better outcomes has not been clear in previous reviews.

Chemotherapy is often necessary for treatment of uterine sarcomas, and doctors and scientists continue to search for the most effective chemotherapy drugs. A recently published report described promising results for treatment of leiomyosarcoma with a new drug Temoxolomide. The GOG published study results this year describing treatment results with ifosfamide and cisplatin in the treatment of a complex tumor called carcinosarcoma and chemotherapy drugs for patients with leiomyosarcoma also were completed. Collectively, these studies are very important because they help doctors and patients find the most effective and least toxic agents to treat these rare and challenging tumors.

Often a combination of multiple treatment approaches results in better outcomes for sarcoma patients. At the 2005 SGO Annual Meeting, a review of one medical center's experience treating women with carcinosarcoma suggested that the addition of radiation therapy to post-operative chemotherapy leads to improved survival.

One of the challenges with these rare tumors has been making the right diagnosis. This is especially true with leiomyosarcomas. Non-cancerous uterine muscle tumors, called uterine fibroids, are extremely common in women age 40 and older. Unfortunately, the non-cancerous tumors can look very much like a cancerous leiomyosarcoma on an ultrasound. Over the past years however, radiologists have reported progress in recognizing clues to help identify signs of cancer. Recent studies have suggested that radiologists are quite accurate when they identify abnormal features on ultrasound or MRI examinations for uterine fibroids.

There also is emerging evidence that a widely available blood test, called LD (lactate dehydrogenase) may be useful in separating the rare malignant leiomyosarcoma from the common uterine fibroid. Much work is still needed in the area of early diagnosis, but these initial findings are welcomed.

It is important to note that uterine sarcomas are rare cancers. As such, many physicians are unfamiliar with appropriate management of these diseases. Therefore, patients with uterine sarcomas and their family members are urged to ask questions and to seek the expert care of a gynecologic oncologist.

# Vaginal Cancer

## State of Vaginal Cancer

*Vaginal cancer is cancer that starts in the vagina, usually in the epithelium (lining). It is usually diagnosed in elderly women with abnormal bleeding and treated with radiation.*

---

*Symptoms:* Vaginal cancer, especially early or precancerous vaginal cancer, may not produce any symptoms.

*Risk factors:* Risk factors for vaginal cancer include advanced age (age 60 and older), HPV infection, smoking and cervical cancer.

*Screening/Prevention:* There are currently no recommended screening methods to detect vaginal cancer; however, many early cases of vaginal cancer or precancerous conditions can be diagnosed through routine pelvic exams and Pap tests. There is no known way to prevent vaginal cancer, but women should be aware of certain risk factors, like HPV infection.

*Incidence:* Vaginal cancer is very rare. In 2005 it is estimated that 2,140 women will be diagnosed with vaginal cancer and 810 women will die of this cancer.<sup>14</sup> Vaginal cancer accounts for about 3 percent of cancers of the female reproductive system.<sup>15</sup>

## Advances in Vaginal Cancer

Cancer of the vagina is one of the more rare female reproductive cancers. As with other rare cancers, progress can be frustratingly slow. Multi-institution studies facilitate better understanding of the best diagnostic and therapeutic options, and progress is made in increments based on ideas shared from an international network.

One recent study considered the role of PET scanning in the evaluation of women with vaginal cancer. In this study, 23 women diagnosed with vaginal cancer had both a CT scan and a PET scan at the time of their diagnosis. In this group of women, the PET scan was substantially better at detecting the vaginal tumor, highlighting the tumor site more than twice as often as CT, and PET scanning detected a tumor in the lymph nodes twice as often as the CT scan. These findings are especially important for vaginal cancer because many women are treated with radiation rather than surgery. If lymph nodes with a tumor are not detected with a pre-treatment study, the radiation may not be delivered to the right areas, and the tumor will continue to grow and possibly spread. Before PET becomes the standard of care for women with vaginal cancer, the findings of this small study will likely be further evaluated in a larger trial.

---

<sup>14</sup> American Cancer Society. Detailed Guide:Vaginal Cancer. *What Are the Key Statistics for Vaginal Cancer?* Available at: [http://www.cancer.org/docroot/CRI/CRI\\_2\\_3x.asp?dt=55](http://www.cancer.org/docroot/CRI/CRI_2_3x.asp?dt=55). Accessed August 5, 2005.

<sup>15</sup> Ibid.

The lining tissue of the vagina, called mucosa, is similar to ordinary skin. Because of this, many conditions that affect the skin can affect the vagina. Even with this understanding, it may seem surprising that the most feared skin cancer, malignant melanoma, can occur in the vagina (and on the vulva). Malignant melanoma of the skin is highly associated with exposure to excess sun. Obviously, vaginal and vulvar melanoma must have a different trigger, a cause that no one has yet discovered. A recent publication from Germany reviewed the occurrence of vaginal and vulvar melanoma in that country from 1976 through 2002. This study showed that diagnoses of vaginal and vulvar melanoma are rare before age 44, but then show a steady increase. While skin melanomas have been increasing over recent years, vaginal and vulvar carcinoma rates have remained steady. Interestingly, the risk of developing vaginal or vulvar melanoma (grouped together) in this study of German women appears to be much lower than for the U.S. women. This observation leads to interesting speculation about why there might be regional or population differences in the incidence of these cancers.

Finally, a recent review of treatment outcomes demonstrated how successful radiation therapy can be, even for advanced vaginal cancers. In this review of 193 patients with vaginal cancers, five year cure rates were 85 percent for patients with stage I tumors, 78 percent for stage II tumors, and 58 percent for stage III and IV tumors. The possibility of having greater than 50 percent survival even, with the most advanced tumors, is uplifting. The authors of this study advocate individualized treatment planning to achieve these survival rates. They also adjusted their treatment plan partway through therapy, if needed, based on the patient's response to the initial phase of treatment. There is, of course, much work needed to achieve even better survival over time, but the successes reported in this study offer hope for a brighter future.

# Vulvar Cancer

## State of Vulvar Cancer

*Vulvar cancer appears as a lesion or lesions on the surface of the vulva or labia. It most often occurs on the inner part of the labia majora or labia minora.*

---

*Symptoms:* Vulvar cancer symptoms include itching, burning, bleeding, pain, or a new lump in the vulvar area.

*Risk factors:* Risk factors include diabetes, advanced age (age 70 and older) and chronic vulvar irritation. Women with HPV infection are also at risk.

*Screening/Prevention:* There is no known way to prevent vulvar cancer; however, regular Pap tests, pelvic exams, and examination of the vulva for changes may lead to early detection.

Self-examination with a mirror can help to identify early changes.

*Incidence:* Vulvar cancer is uncommon, representing only about 4 percent of all female reproductive organ cancers.<sup>16</sup> This year, about 3,870 women will be diagnosed with vulvar cancer in the U.S. and about 870 women will die of this cancer.<sup>17</sup> Vulvar cancer is frequently cured, usually by surgically removing the vulvar lesions and the groin lymph nodes.

## Advances in Vulvar Cancer

Vulvar cancer affects relatively few women in the United States and usually can be cured with surgery alone. Research continues to be performed to improve surgical technique and enhance quality of life (QOL), especially for women whose cancer has spread or recurred, and to improve survival.

The surgical technique to remove vulvar cancer has changed dramatically over the past few decades. Today, less tissue can be removed and women can still have excellent outcomes. Importantly, recent studies show that the clitoris can be safely preserved as long as there is no cancer present. Historically, surgery for vulvar cancer has involved removal of some lymph nodes to check for cancer spread. Following lymph node removal, women may experience slow and difficult healing and may develop leg swelling. Over the past few years, gynecologic oncologists have been evaluating a new technique to reduce these complications, using a procedure called “sentinel node biopsy.” This approach identifies the few lymph nodes most at

---

<sup>16</sup> American Cancer Society. Detailed Guide:Vulvar Cancer. *What Are the Key Statistics for Vulvar Cancer?* Available at: [http://www.cancer.org/docroot/CRI/CRI\\_2\\_3x.asp?dt=45](http://www.cancer.org/docroot/CRI/CRI_2_3x.asp?dt=45). Accessed August 5, 2005.

<sup>17</sup> Ibid.

risk for cancer spread and removes only these. The GOG is actively enrolling patients into a study on intra-operative lymphatic mapping and hopes to have the definitive view of this new technique soon. A few small studies have shown this technique to be safe and effective.

In a second study aimed at decreasing the complications of swelling in both legs and infection, the GOG opened a trial using a product known as a tissue sealant. This tissue sealant is made of fibrin (a natural human protein) which acts like a glue to seal off the lymphatic channels. This trial recently completed patient enrollment and results will be published in the near future.

For women with advanced vulvar cancer, it was previously found that combining radiation and chemotherapy prior to surgery would shrink the cancer enough to allow better cosmetic results after surgery. Now studies of combinations are being performed to look for treatments that might decrease the side effects of the chemotherapy while keeping its effectiveness.

Very little attention has been focused on the QOL in women who develop and are treated for vulvar cancer. Important results from recent QOL studies were published this year. One study found the areas of life most affected by the diagnosis and treatment of vulvar cancer were social and emotional functioning, sexuality and body image. The findings from this study should help cancer care teams begin to find ways to help women recover more fully from treatment for vulvar cancer.

# Acknowledgements

We would like to thank the following members of the SGO for contributing to the *State of the State of Gynecologic Cancers* third annual report. These individuals generously shared their knowledge and expertise regarding the latest information and advances in gynecologic cancers to make this report as accurate and timely as possible. Each of these physicians and gynecologic cancer specialists is actively involved in clinical practice and research to develop innovative treatments for gynecologic cancers.

## ■ Medical Editor

### **Bobbie S. Gostout, MD**

Associate Professor  
Gynecologic Surgery  
Mayo Clinic

## ■ Editor

### **Marsha Tanner Wilson, MPH**

Director of Communications  
Gynecologic Cancer Foundation  
Society of Gynecologic Oncologists

## ■ Contributors

### **Andrew Berchuck, MD**

Professor  
Department of Obstetrics and Gynecology  
Duke University Medical Center

### **David M. Gershenson, MD**

Professor and Chairman  
Gynecologic Oncology Department  
MD Anderson Cancer Center

### **Robert L. Giuntoli, II, MD**

Assistant Professor  
Department of Obstetrics and Gynecology  
The Kelly Gynecologic Oncology Service  
John Hopkins Hospital

### **Benjamin E. Greer, MD**

Professor, Division of Gynecologic Oncology  
Department of Obstetrics and Gynecology  
University of Washington School of Medicine

### **William J. Hoskins, MD**

Director, Curtis & Elizabeth Anderson  
Cancer Center  
Institute at Memorial Health University  
Medical Center  
Mercer University Medical Center

### **Patricia L. Judson, MD**

Assistant Professor  
Department of Obstetrics and Gynecology  
and Women's Health  
University of Minnesota

### **Johnathan M. Lancaster, MD**

Assistant Professor  
Moffitt Cancer Center  
University of South Florida

# Gynecologic Cancer Foundation

## ■ Executive Committee

### *Chairman*

**Karl C. Podratz, MD, PhD**

Mayo Clinic  
Rochester, MN

### *Treasurer*

**David M. Gershenson, MD**

MD Anderson Cancer Center  
Houston, TX

### *Membership Committee Chair*

**Richard R. Barakat, MD**

Memorial Sloan-Kettering Cancer Center  
New York, NY

### *Development Chair*

**Mitchell Morris, MD**

First Consulting Group  
Long Beach, CA

### *Awards Committee Chair*

**David G. Mutch, MD**

Washington University School of Medicine  
St. Louis, MO

### *Communications Committee Chair*

**Bobbie S. Gostout, MD**

Mayo Clinic  
Rochester, MN

### *Advisory Committee Chair*

**Beth Y. Karlan, MD**

Cedars Sinai Medical Center-UCLA  
Los Angeles, CA

### *Advocacy Committee Chair*

**Ronald D. Alvarez, MD**

University of Alabama at Birmingham  
Birmingham, AL

## ■ Executive Director

**Karen J. Carlson**

Chicago, IL

## ■ Board of Directors

**J. Max Austin, Jr., MD**

University of Alabama at Birmingham  
Birmingham, AL

**Eva Chalas, MD**

Long Island Gynecologic Oncologists, P.C.  
Smithtown, NY

**Wesley C. Fowler, Jr., MD**

University of North Carolina School  
of Medicine  
Chapel Hill, NC

**Ginger J. Gardner, MD**

Johns Hopkins Hospital  
Baltimore, MD

**Carolyn Muller, MD**

University of New Mexico  
Albuquerque, NM

**James W. Orr, Jr., MD**

Florida Gynecologic Oncology  
Fort Myers, FL

**Ellen B. Smith, MD**

Southwest Regional Cancer Center  
Austin, TX

**Hector M. Tarraza, MD**

Maine Medical Center  
Portland, ME

**Edward L. Trimble, MD, MPH**

National Cancer Institute  
Bethesda, MD

**Thomas C. Wright, Jr., MD**

Columbia University  
New York, NY



Awareness. Education. Research.

---



230 West Monroe, Suite 2528  
Chicago, IL 60606  
312.578.1439  
[info@thegcf.org](mailto:info@thegcf.org)  
[www.thegcf.org](http://www.thegcf.org)  
[www.wcn.org](http://www.wcn.org)

401 North Michigan Avenue  
Chicago, IL 60611  
312.644.6610  
[sgo@sba.com](mailto:sgo@sba.com)  
[www.sgo.org](http://www.sgo.org)

