ASCO
American Society of Clinical Oncology

Cancer Advances

NEWS FOR PATIENTS FROM THE 2012 ASCO ANNUAL MEETING
PROVIDING THE LATEST INFORMATION ABOUT CANCER RESEARCH

ASCO Annual '12 Meeting

ADOLESCENTS AND YOUNG ADULTS

Adolescents and Young Adults With Leukemia Have Lower Survival Rates and Higher Rates of Recurrence Than Younger Patients

In a new study on a type of leukemia called high-risk B-precursor acute lymphoblastic leukemia (ALL), researchers found that adolescents and young adults (ages 16 to 30) were more likely to have the disease recur (come back after treatment) and more likely to die from the disease than younger patients. Adolescents and young adults (often shortened to AYA) with cancer make up a unique group of patients with different medical, social, and emotional needs than both younger and older patients. The results of this study highlight the importance of finding new ways to treat leukemia and lower the side effects of treatment for these patients.

This study included 501 adolescents and young adults who were part of a larger study that tested four different treatment regimens (schedules) for this type of ALL. Among the adolescents and young adults, researchers found that 68% had no signs of leukemia after five years, compared with about 81% of the younger patients. In addition, nearly 80% of the adolescents and young adults were alive after five years, compared with about 88% of the younger patients.

The researchers also found that the adolescents and young adults participating in this study were more likely to have the disease recur. About 21% of the adolescent and young adult patients had the disease come back after treatment, compared with about 13% of the younger patients. Adolescents and young adults were also more likely to die from severe side effects than younger patients.

What this means for patients: "This study tells us that the poorer outcome for AYA patients is from more resistant disease, resulting in higher rates of recurrence and higher side effects from treatment," said lead author Eric Larsen, MD, Medical Director of the Maine

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A WORD FROM THE PRESIDENT

Dear Friends,

Welcome to the 2012 American Society of Clinical Oncology (ASCO) Annual Meeting. Each year, the ASCO Annual Meeting highlights the sharing of information between oncologists from around the world. That is why I chose "Collaborating to Conquer Cancer" as this year's theme. As a pediatric oncologist, I have seen firsthand the enormous advances that we have made in the management of childhood cancer. One of the key themes that we've learned from treating childhood cancers is the importance of collaboration in order to succeed.

Collaboration between all oncology professionals is even more important now, because many of the latest advances are not specific to a type of cancer or a patient's age, but spread along many different types of cancer in many different age groups.

Collaboration with patients and families is also important so we can find cancer treatments that are effective but have less impact on the quality of patients' lives. To help people learn about the latest advances in cancer care, ASCO publishes *Cancer Advances,* a series of consumer information newsletters. *Cancer Advances: News for Patients from the 2012 ASCO Annual Meeting* provides the latest information about the cancer research presented at the 2012 ASCO Annual Meeting in Chicago, Illinois, from June 1 through June 5, 2012.

I am excited and encouraged by the progress made in the diagnosis and treatment of cancer. Together, we are *making a world of difference in cancer care.* For more information about cancer, please visit Cancer.Net, ASCO's patient information website.

Sincerely,

Michael P. Link, MD
ASCO President

ADOLESCENTS AND YOUNG ADULTS

AYAs With Leukemia Have Lower Survival Rates and Higher Rates of Recurrence

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Children's Cancer Program and Study Chair of the Children's Oncology Group protocol AALL0232. "We have to find new treatments to better treat the leukemia, but while we want to intensify therapy, we also have to reduce the side effects." If you or your child or teen has been diagnosed with leukemia, talk with the doctor about the current treatments available, as well as the expected side effects and how they can be managed. ■

What to Ask the Doctor

- What type of leukemia has been diagnosed?
- What is the prognosis (chance of recovery)?
- What are the treatment options?
- What treatment plan do you recommend? Why?
- What are the possible side effects of treatment? How can they be managed?
- What is the risk of recurrence?

For More Information: Adolescents and Young Adults

- Guide to ALL (www.cancer.net/all)
- Guide to Childhood ALL (www.cancer.net/childall)
- Cancer.Net Video: Adolescents and Young Adults with Cancer, with Melissa Hudson, MD (www.cancer.net/videos)
- Cancer in Teens (www.cancer.net/coping)
- Cancer in Young Adults (www.cancer.net/coping)
- Moving Forward: Perspectives from Survivors and Doctors (www.cancer.net/movingforward)

BRAIN TUMOR

Combination of Chemotherapy and Radiation Therapy Lengthens Lives of Patients With Anaplastic Oligodendroglial Tumors

A recent study by the European Organisation for Research and Treatment of Cancer (EORTC) shows that chemotherapy after radiation therapy slowed the growth of anaplastic oligodendroglial tumors (a type of brain tumor). It also lengthened the lives of patients with this type of tumor, especially for those whose tumor was missing specific genetic material in chromosomes 1 and 19 (called 1p/19q co-deletions). Currently, most patients with this disease receive either chemotherapy or radiation therapy, but not both.

In this study, 368 patients with newly diagnosed anaplastic oligodendroglial tumors who had not received treatment were given either radiation therapy alone or radiation therapy plus chemotherapy. Chemotherapy was given in six cycles or rounds with the drugs procarbazine (Matulane), lomustine (CeeNu), and vincristine (Vincasar).

For patients receiving the combination of chemotherapy and radiation therapy, the time it took for the disease to worsen was about two years, compared with a little over a year for patients receiving only radiation therapy. In addition, patients receiving the combination treatment lived with their disease for about a year longer than those who received only radiation therapy. About 80 patients in this study had a 1p/19q co-deletion. These patients who received radiation therapy and chemotherapy were about half as likely to die from the disease as those who received radiation therapy.

What this means for patients: "From this study, it's clear that combining chemotherapy and radiation therapy can significantly improve survival for certain patients," explained lead author Martin Van Den Bent, MD, Professor of Neuro-Oncology at Erasmus MC—Daniel den Hoed Cancer Center in Rotterdam, the Netherlands. "Not only do we now have a better treatment—we also have a genetic marker that can help us determine which patients will benefit, allowing us to personalize treatment for this challenging disease." ■

For More Information: Brain Tumor

- Guide to Brain Tumors (www.cancer.net/brain)
- The Genetics of Cancer (www.cancer.net/genetics)
- Facts About Personalized Cancer Medicine (www.cancer.net/features)

What to Ask Your Doctor

- What type of brain tumor do I have? What does this mean?
- Will tests be done to find out if my tumor has any genetic changes?
- What is my prognosis (chance of recovery)?
- What are my treatment options?
- What treatment plan do you recommend? Why?
- Will radiation therapy, chemotherapy, or a combination of these treatments be used?

BREAST CANCER

Newer, More Costly Drugs No Better Than Standard Chemotherapy for Breast Cancer

Giving either of two newer and more costly drugs, nanoparticle albumin-bound paclitaxel (Abraxane; called nab-paclitaxel) and ixabepilone (Ixempra), did not work better to treat locally advanced or metastatic breast cancer than standard chemotherapy with paclitaxel, according to a large study. Locally advanced breast cancer is cancer that has spread to parts of the body near the breast. Metastatic breast cancer has spread to other, more distant parts of the body.

The 799 patients who

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Newer, More Costly Drugs No Better Than Standard Chemotherapy

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participated in this study received weekly cycles or rounds of treatment with either paclitaxel, nab-paclitaxel, or ixabepilone for three weeks followed by a one-week break. Researchers found that paclitaxel kept the cancer from worsening for about 11 months, compared with about nine months for those given nab-paclitaxel and about eight months for those given ixabepilone.

Researchers also found that 16% of the patients who received paclitaxel developed severe neuropathy (nerve damage), compared with 25% of the patients who received nab-paclitaxel and ixabepilone. However, patients who received ixabepilone were less likely to have side effects related to low levels of blood cells, such as an increased risk of infection, fatigue, and blood clotting problems. For patients receiving paclitaxel, 21% developed blood-related side effects, compared with 12% of those receiving ixabepilone and 51% of those given nab-paclitaxel.

What this means for patients: "We wanted to know if giving these newer drugs on a weekly schedule would result in similar or better effectiveness with fewer side effects than the standard weekly paclitaxel regimen," said lead author Hope S. Rugo, MD, Professor of Medicine and Director of Breast Oncology and Clinical Trials Education at the University of California, San Francisco, Helen Diller Family Comprehensive Cancer Center. "This study shows that we should not assume that newer drugs are always better than the standard therapies. In metastatic breast cancer, we are constantly examining and refining dosing schedules, testing new therapies, and looking closely at the features of patients' tumors to find the right treatment for the right patient with the fewest side effects." Talk with your doctor about the possible side effects of each treatment option as well as the costs you may need to pay. ■

What to Ask Your Doctor

- What stage of breast cancer do I have? What does this mean?
- What are my treatment options?
- What treatment plan do you recommend? Why?
- Will chemotherapy with paclitaxel be part of my treatment or will other drugs be used?
- If I'm worried about managing the costs of my cancer care, who can help me with those concerns?
- What are the possible side effects of treatment? How can they be managed?

New Treatment for HER2-Positive Advanced Breast Cancer Controls Cancer Growth Better Than Standard Treatment

In a recent study, researchers found that the new drug trastuzumab emtansine worked better to control the growth of HER2-positive metastatic breast cancer than the current standard treatment. HER2-positive metastatic breast cancer is breast cancer that has spread to other parts of the body and has too much of a protein called human epidermal growth factor receptor 2 (HER2). The current standard treatment for this type of breast cancer is chemotherapy with capecitabine (Xeloda) combined with the targeted therapy lapatinib (Tykerb). Targeted therapy is a treatment that targets the cancer's specific genes, proteins, or the tissue environment that contributes to cancer growth and survival.

Lapatinib and trastuzumab (Herceptin) are targeted therapies used for breast cancer treatment that specifically target HER2. This new drug, trastuzumab emtansine, is a combination of two types of drugs, one that targets HER2 and one that is more similar to chemotherapy.

In this study, nearly 1,000 patients with metastatic HER2-positive breast cancer who had already received chemotherapy and treatment with trastuzumab received either trastuzumab emtansine or capecitabine plus lapatinib every three weeks until the cancer worsened or the side effects became severe. For the patients receiving trastuzumab emtansine, the cancer worsened about three months later than those receiving capecitabine and lapatinib. After two years, about 65% of the patients receiving trastuzumab emtansine were living with their disease, compared with about 48% of those receiving capecitabine and lapatinib.

The most common severe side effects for patients receiving trastuzumab emtansine were thrombocytopenia (low levels of platelets, the cells that help the blood to clot) and signs of liver function problems. However, these side effects went away with a break in treatment. Patients receiving capecitabine and lapatinib were more likely to need the dose of treatment reduced because of the side effects, which included diarrhea, vomiting, and hand-foot syndrome (redness, swelling, and pain on the palms of the hands or the soles of the feet).

What this means for patients: "The drug worked significantly better than a very effective approved therapy for HER2-positive metastatic breast cancer," said lead author Kimberly L. Blackwell, MD, Professor of Medicine and Assistant Professor of Radiation Oncology at Duke Cancer Institute at Duke University in North Carolina. "Also, as a doctor who takes care of a lot of patients with breast cancer, I'm pleased that this drug has very few side effects. For patients facing metastatic breast cancer, this is a breakthrough." Trastuzumab emtansine is currently only available in clinical trials. Talk with your doctor about all treatment options available to you, including clinical trials. ■

What to Ask Your Doctor

- What type of breast cancer do I have? What is the stage?
- Is my cancer HER2-positive? What does this mean?
- What are my treatment options?
- What treatment plan do you recommend? Why?
- What clinical trials are open to me?
- What are the side effects of treatment? How will they be managed?

For More Information: Breast Cancer

- Guide to Breast Cancer (www.cancer.net/breast)
- What to Know: ASCO's Guideline on HER2 Testing for Breast Cancer (www.cancer.net/whattoknow)
- Understanding Tumor Markers (www.cancer.net/features)
- Understanding Chemotherapy (www.cancer.net/chemotherapy)
- Making Decisions About Cancer Treatment (www.cancer.net/treatmentdecisions)
- Managing the Cost of Cancer Care (www.cancer.net/managingcostofcare)
- Managing Side Effects (www.cancer.net/sideeffects)

Even Low Doses of Radiation Therapy for Childhood Cancers Can Increase Risk of Breast Cancer

According to a recent study, women survivors of childhood cancers who received low doses of radiation therapy aimed at the chest had a high risk of developing breast cancer at a young age. An increased risk of breast cancer is a known long-term side effect or late effect of moderate to high-dose radiation therapy to the chest. That is why the current screening recommendations for childhood cancer survivors recommend annual breast cancer screening for women who received moderate to high doses (20 or more Gray or Gy, a measure of the radiation dose) of radiation therapy to the chest. This study shows that even childhood cancer survivors who received lower doses of radiation therapy have a higher risk of breast cancer, and they may need to follow similar breast cancer screening recommendations.

In this study, researchers looked at information from more than 1,200 women who participated in the Childhood Cancer Survivor Study and 4,570 women who were the first-degree relatives (mother, sister, daughter) of participants in the Women's Environmental Cancer and Radiation Epidemiology (WECARE) Study.

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Low Doses of Radiation Therapy for Childhood Cancers Can Increase Risk of Breast Cancer

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The WECARE Study was made up of women with breast cancer who lived at least one year after their diagnosis.

Researchers found that 24% of childhood cancer survivors developed breast cancer before age 50. For those treated for Hodgkin lymphoma as children, 30% developed breast cancer before age 50. For women who received radiation therapy to the chest in doses ranging from 10 to 19 Gy, 7% developed breast cancer before age 40, compared with 12% of those who received radiation therapy doses of 20 Gy or higher. As a comparison, this increase in risk is similar to the known risk for women who have a mutation in the *BRCA1* and *BRCA2* breast cancer genes.

What this means for patients: "While radiation doses have decreased and techniques have improved, radiation therapy is still an essential part of treatment for many childhood cancers," said lead author Chaya S. Moskowitz, PhD, Associate Member and Associate Attending Biostatistician at Memorial Sloan-Kettering Cancer Center in New York City. "The goal is to cure the cancer for more children while lessening future health problems. Our results suggest that young women treated with lower doses of radiation who are not currently being screened also have a higher risk of breast cancer and might benefit from a similar screening schedule."

If you are a childhood cancer survivor or if you have a child who received cancer treatment, talk with the doctor about the recommended schedule for follow-up care. The doctor's office can help you create a record of the written history of the diagnosis, the treatment given, and the recommendations for follow-up care. In addition, ASCO offers cancer treatment summary forms to help keep track of the cancer treatment received and develop a survivorship care plan. ■

What to Ask the Doctor

- What type of cancer did I or my child have?
- What treatments were given?
- What are the long-term side effects of these treatments, including the risk of secondary cancers?
- What is the recommended follow-up care schedule?
- What cancer screening tests are recommended?

Preliminary Study Shows That the Lung Cancer Drug, Crizotinib, Is Effective for Three Childhood Cancers

In an early study with the targeted therapy drug crizotinib (Xalkori), researchers found that it stopped the growth of neuroblastoma, anaplastic large cell lymphoma (ALCL), and inflammatory myofibroblastic tumors (IMT), and in some instances, removed all signs of the cancer.

Neuroblastoma is a tumor that develops in the nerve cells. ALCL commonly begins in T cells, and rarely B cells, which are types of white blood cells that help the body fight infection. IMT is a rare tumor that often begins in the lungs, soft tissues, and other organs. Targeted therapy is a treatment that targets a cancer's specific genes, proteins, or the tissue environment that contributes to cancer growth and survival. Specifically, crizotinib targets genetic mutations (changes) in the *ALK* gene, which is found in each of these cancers. The drug was also recently approved by the U.S. Food and Drug Administration to treat adult lung cancers that have mutations to the *ALK* gene.

The 70 children who participated in this study had neuroblastoma, ALCL, or IMT that had worsened while receiving the standard treatments. They received one of six different doses of crizotinib twice a day and continued taking the drug as long as they had no side effects. When possible, the cancers were tested for a mutation to the *ALK* gene to find out if the crizotinib worked better to treat cancer with a changed *ALK* gene.

Researchers found that most (7 out of 8 patients or 88%) of the patients with ALCL had no evidence of the cancer for as long as 18 months, and most of the patients with IMT had the tumor shrink or disappear for up to two years. For neuroblastoma, researchers found that three out of the 27 patients who participated in the study had the disease disappear, and eight had the disease stop growing. For the eight patients who had neuroblastoma with mutations to the *ALK* gene, two had the disease disappear. The findings for children with neuroblastoma are particularly important because the benefit lasted from nine months to more than two years, and generally neuroblastoma that has already been treated with all the standard therapies usually worsens within one to two months.

What this means for patients: "It's remarkable that this targeted oral medication provided such a benefit for these children with highly aggressive cancers, most of whom had already received every available therapy," said Yael Mosse, MD, Assistant Professor of Pediatrics at the Children's Hospital of Philadelphia and the University of Pennsylvania and recipient of a Conquer Cancer Foundation of ASCO Young Investigator Award in 2003 and a Career Development Award in 2004. "Now that we know more about factors that drive cancer growth in children, we can target those changes and give treatment in a much smarter, and potentially safer, way." Talk with your child's doctor about all treatments available for these cancers, including clinical trials. ■

What to Ask Your Child's Doctor

- What type of cancer does my child have?
- What is the prognosis (chance of recovery)?
- Will testing of the cancer's genes be needed to help determine the best treatment options?
- What are my child's treatment options?
- What are the risks and benefits of this treatment?
- What clinical trials are open to my child?

For More Information: Childhood Cancer

- Guide to Childhood Cancer (www.cancer.net/childhood)
- Guide to Neuroblastoma (www.cancer.net/neuroblastoma)
- Guide to Childhood Non-Hodgkin Lymphoma (www.cancer.net/childnhl)
- Understanding Targeted Treatments (www.cancer.net/targetedtreatments)
- Late Effects of Childhood Cancer (www.cancer.net/survivors)
- Mammography—What to Expect (www.cancer.net/mammography)

Continuing Bevacizumab With Second-Line Chemotherapy for Metastatic Colorectal Cancer Lengthens Patients' Lives

Researchers found that continuing bevacizumab (Avastin) while switching the chemotherapy used for second-line treatment lengthened the lives of patients with metastatic (cancer that has spread) colorectal cancer who had already received bevacizumab and another type of chemotherapy, a new study showed. Second-line treatment is treatment given after the first treatment, called first-line treatment, has stopped working. This approach has been used in the United States, and this study confirms its use as an effect treatment method.

Bevacizumab is a type of targeted therapy called an anti-angiogenic. Targeted therapy is a treatment that targets the cancer's specific genes, proteins, or tissue environment that contributes to cancer growth and survival. An anti-angiogenic is focused on stopping the tumor from making the blood vessels it needs to grow and spread.

The 820 patients who participated in this study had metastatic colorectal cancer that could not be removed

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COLORECTAL CANCER

Continuing Bevacizumab With Second-Line Chemotherapy Lengthens Patients' Lives

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with surgery. They received bevacizumab plus standard first-line chemotherapy with either oxaliplatin (Eloxatin) or irinotecan (Camptosar). When the cancer worsened, patients were then given second-line chemotherapy with the alternate drug and either bevacizumab or a placebo (an inactive treatment). Researchers found that the patients who received bevacizumab as part of their second-line treatment lived about 11 months, compared with nearly 10 months for those who received chemotherapy and a placebo for second-line treatment. In addition, second-line treatment with bevacizumab kept the cancer from worsening for about a month and a half longer than chemotherapy alone.

What this means for patients: "These findings confirm what many physicians and researchers have long suspected—that extended bevacizumab treatment provides meaningful benefits for patients with advanced colorectal cancer, without adding significant side effects," said Dirk Arnold, MD, Director of the Hubertus Wald Tumor Center, University Cancer Center (UCCH) of University Clinic Eppendorf, Hamburg, Germany, and Speaker of the German AIO Colorectal Cancer Collaborative Study Group, which started the study. "By switching chemotherapy when the cancer worsens and continuing with bevacizumab, we can make second-line treatment even more effective." Talk with your doctor about the treatment options for colorectal cancer, including the specific drugs that are recommended. ■

For More Information: Colorectal Cancer

- Guide to Colorectal Cancer (www.cancer.net/colorectal)
- Understanding Targeted Treatments (www.cancer.net/targetedtreatments)
- Angiogenesis and Angiogenesis Inhibitors to Treat Cancer (www.cancer.net/angiogenesis)
- When the First Treatment Doesn't Work (www.cancer.net/features)
- Placebos in Cancer Clinical Trials (www.cancer.net/features)

What to Ask Your Doctor

- What stage of colorectal cancer do I have? What does this mean?
- What are my treatment options?
- What treatment plan do you recommend? Why?
- Do you recommend switching treatments? Why and at what point during my treatment plan?
- What are the side effects of treatment? How can they be managed?

GASTROINTESTINAL STROMAL TUMOR

Regorafenib Effective for Gastrointestinal Stromal Tumor When Other Treatments Stop Working

A new study showed that the targeted drug regorafenib is an effective treatment for patients with gastrointestinal stromal tumor (GIST) that has worsened because the other available treatments have stopped working. Targeted therapy is a treatment that targets a tumor's specific genes, proteins, or the tissue environment that contributes to cancer growth and survival. Specifically, regorafenib targets an abnormal enzyme called KIT. The currently available GIST treatments, imatinib (Gleevec) and sunitinib (Sutent), often slow or stop tumor growth at first, but eventually the drugs stop working and the cancer continues to grow. Regorafenib appears to work in a different way, even helping to slow GIST growth when other treatments are no longer working.

The 199 patients who participated in this study had GIST that had spread to other parts of the body or that could not be removed with surgery. They received either regorafenib or a placebo (inactive treatment). All patients received supportive care, which is treatment to relieve the symptoms of the disease. It is usually the best option for patients with GIST when all the approved treatments no longer work.

For patients taking regorafenib, the disease worsened almost five months after treatment, compared with almost a month for patients taking the placebo. Because regorafenib worked so well, 85% of the patients receiving the placebo and supportive care switched to regorafenib once the GIST worsened.

What this means for patients: "Regorafenib will fulfill an urgent unmet need for patients with GIST who have received all other treatment options," said George Demetri, MD, Director, Ludwig Center and Sarcoma Center at Dana-Farber Cancer Institute and Harvard Medical School in Boston, Massachusetts. "Targeted therapy has revolutionized treatment for this rare cancer, but we've been on the hunt for additional effective treatments when the only two available therapies stop working." Currently, regorafenib is only available in clinical trials. It's important to talk with your doctor about the treatment options for GIST, including clinical trials. ■

For More Information: Gastrointestinal Stromal Tumor

- Guide to Gastrointestinal Stromal Tumor (www.cancer.net/gist)
- Understanding Targeted Treatments (www.cancer.net/targetedtreatments)
- Placebos in Cancer Clinical Trials (www.cancer.net/features)
- Palliative Care (www.cancer.net/treatment)
- When the First Treatment Doesn't Work (www.cancer.net/features)

What to Ask Your Doctor

- What are my treatment options for GIST?
- What treatment plan do you recommend? Why?
- How will the cancer be managed if this treatment stops working?
- What clinical trials are open to me?

IMMUNOTHERAPY

Promising New Immunotherapy for Melanoma, Kidney Cancer, and Non-Small Cell Lung Cancer

A new immunotherapy (called BMS-936558) helped shrink melanoma, kidney cancer, and non-small cell lung cancer (NSCLC) in a recent early study. Immunotherapy is designed to boost the body's natural defenses to fight the cancer. It uses materials either made by the body or in a laboratory to bolster, target, or restore immune system function.

The 296 patients who participated in this study had different types of cancer, including melanoma, NSCLC, colorectal, prostate, and kidney cancer that had worsened while receiving the standard treatments. During treatment with this new immunotherapy, 28% (26 out of 94 patients) of patients with melanoma, 27% (9 out of 33 patients) of patients with kidney cancer, and 18% (14 out of 76 patients) of patients with NSCLC had the tumor shrink or stop growing.

When researchers examined the results of the study, they found a tumor marker (biomarker) called PD-L1 that could help predict whether this treatment would be effective. A tumor marker is a substance found at higher than normal levels in the blood, urine, or body tissues of some people with cancer. Researchers found that 36% (9 out of 25 patients) of patients with PD-L1 present in their cancer had the cancer shrink or stop growing, compared with none of the patients without PD-L1 present in the cancer.

What this means for patients: "It's exciting to see a single treatment work this well among patients with a range of cancers that had worsened despite standard therapies," said Suzanne Topalian, MD, Professor of Surgery and Oncology at the Johns Hopkins University School of Medicine in Baltimore, Maryland. "We were especially surprised to see it have an effect in nearly 20% of patients with lung cancer, which is historically difficult to treat with immunotherapy." This

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IMMUNOTHERAPY

Promising New Immunotherapy for Melanoma, Kidney Cancer, and NSCLC

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immunotherapy is still in the early stages of development and only available in clinical trials. Talk with your doctor about all treatment options for your specific type of cancer, including clinical trials. ■

What to Ask Your Doctor

- What type of cancer do I have?
- What is the stage? What does this mean?
- What are my treatment options?
- What clinical trials are open to me?
- What treatment plan do you recommend? Why?
- If the cancer worsens during treatment, what are the next steps?

For More Information: Immunotherapy

- Guide to Kidney Cancer (www.cancer.net/kidney)
- Guide to Lung Cancer (www.cancer.net/lung)
- Guide to Melanoma (www.cancer.net/melanoma)
- Understanding Tumor Markers (www.cancer.net/features)
- Understanding Immunotherapy (www.cancer.net/immunotherapy)
- Clinical Trials (www.cancer.net/clinicaltrials)

KIDNEY CANCER

Patients With Kidney Cancer Report Better Quality of Life With Pazopanib

A recent study showed that patients with metastatic kidney cancer (kidney cancer that has spread to other parts of the body) preferred pazopanib (Votrient) to sunitinib (Sutent), reporting that they had better quality of life while receiving pazopanib. These drugs are a type of treatment called targeted therapy, which targets the cancer's specific genes, proteins, or tissue environment that contributes to cancer growth and survival. To help control cancer growth, patients with metastatic kidney cancer often need to take one of these drugs for many months or years. This means that they are also likely to experience side effects for as long as they take the drug, which can greatly affect their long-term quality of life.

As part of this study, 168 patients received pazopanib for 10 weeks followed by a two-week break in treatment. Then, they received sunitinib for 10 weeks. When 114 of these patients were asked about their treatment preferences, researchers found that 70% preferred treatment with pazopanib, 22% preferred sunitinib, and 8% had no preference. The most common reasons patients gave for preferring pazopanib was better quality of life and less fatigue. Researchers also found that patients taking pazopanib needed to have the dose lowered less often and needed fewer breaks in treatment than when taking sunitinib. Lowering the dose and temporarily stopping treatment are signs that the treatment is causing too many or too severe side effects.

What this means for patients: "While we expected patients would prefer one drug over the other, due to the known side effects, we didn't expect this great a preference," said the study's lead author, Bernard J. Escudier, MD, a physician at the Institut Gustave Roussy, Villejuif, France. "It's an important reminder that experiencing mild side effects over a long time has an effect on your quality of life." Talk with your doctor about the side effects of each of your treatment options, including how they may affect your quality of life and how they can be managed. ■

For More Information: Kidney Cancer

- Guide to Kidney Cancer (www.cancer.net/kidney)
- Understanding Targeted Treatments (www.cancer.net/targetedtreatments)
- Making Decisions About Cancer Treatment (www.cancer.net/treatmentdecisions)
- Managing Side Effects (www.cancer.net/sideeffects)
- Coping With Cancer-Related Fatigue (www.cancer.net/copingwithfatigue)

What to Ask Your Doctor

- What are my treatment options?
- What treatment plan do you recommend? Why?
- What are the possible side effects of treatment, both in the short term and the long term?
- How can these side effects be managed?
- How will this treatment affect my daily life? Will I be able to work, exercise, and perform my usual activities?

LUNG CANCER

Study Shows Molecular Testing of Non-Small Cell Lung Cancer Is Possible at Community Hospitals

A study in Germany showed that it is possible for local community hospitals to test non-small cell lung cancer (NSCLC) for molecular factors involved in the cancer. This means that a greater number of patients will have access to these tests. These molecular factors can be genes, proteins, or features of the tissue environment that contribute to cancer growth and survival. The results of tests for molecular factors often determine whether targeted therapy is a treatment option. Targeted therapy is a treatment that targets the molecular factors involved in cancer growth.

For NSCLC, targeted therapies include erlotinib (Tarceva), which targets epidermal growth factor receptor-1 (EGFR1), and crizotinib (Xalkori), which targets changes in the *ALK* gene. In addition, there are other molecular factors associated with NSCLC, including the *KRAS* and *BRAF* genes. Until recently, testing for these factors was still being studied and only available in academic medical centers, making it challenging for patients at community treatment centers to have access to these tests.

For this study, researchers set up a molecular screening network that included non-academic community hospitals in Germany. In these hospitals, 77% of the lung tumor samples removed during a biopsy (removal of a small amount of tissue for examination under a microscope) were sent to a central laboratory to look for the molecular factors involved in NSCLC growth. Overall, 40% of these samples had molecular changes that could be treated with the targeted therapies discussed above. For the patients with NSCLC, all of those with an *ALK* mutation (change) who were able to take crizotinib received the drug, and three-quarters of those with EGFR changes received drugs targeting EGFR, such as erlotinib.

What this means for patients: "Several of the most effective drugs used to treat advanced non-small cell lung cancer are only effective for patients whose tumors have specific molecular features," explained lead author Thomas Zander, MD, of the University Hospital in Cologne, Germany. "Because of advances in molecular testing and the ease of doing this testing in many laboratories, our research shows that state-of-the-art personalized medicine is possible in community hospitals and not just in advanced academic medical centers." According to Dr. Zander, testing helps identify the patients most likely to benefit from certain drugs and those that may not be helped by the drug so that these patients can be spared the cost and side effects of drugs that are unlikely to be effective. ■

What to Ask Your Doctor

- What type of lung cancer do I have? What does this mean?
- Will testing be done to determine the molecular factors involved in my cancer? Where will testing be done?
- How will the results affect my treatment options?
- What are my treatment options?
- What treatment plan do you recommend? Why?

Afatinib Keeps Advanced Non-Small Cell Lung Cancer With EGFR Mutations From Worsening Longer Than Chemotherapy

In a recent international study, researchers found that the targeted therapy drug afatinib kept advanced non-small cell lung cancer (NSCLC) with mutations (changes) to the epidermal growth factor receptor (EGFR) from worsening longer than the standard treatment. Targeted therapy is a treatment that targets a cancer's specific genes, proteins, or the tissue environment that contributes to cancer growth and survival. Specifically, afatinib targets EGFR. In a healthy cell, EGFR allows cells to grow and divide. When there are too many receptors caused by a mutation, as happens in cancer, the cancer cells continue to grow and divide uncontrollably.

The 345 patients who participated in this study had NSCLC with EGFR mutations and received either afatinib or the standard chemotherapy, a combination of pemetrexed (Alimta) and cisplatin (Platinol) given intravenously (IV; into a vein). Overall, researchers found that it took about four months longer for the cancer to worsen for patients taking afatinib than for patients receiving chemotherapy. For a subgroup of patients with two of the most common types of EGFR mutations (called deletion 19 and L858R), the time it took for the cancer to worsen for those taking afatinib was almost seven months longer than for those receiving chemotherapy. Afatinib also slowed the development of common lung cancer-related symptoms, including cough and shortness of breath.

What this means for patients: "By more broadly and effectively blocking how these cancers grow, afatinib appears to be more effective than other therapies that target EGFR," said lead author James Chih-Hsin Yang, MD, PhD, a Professor at the National Taiwan University. "This new treatment could not only help patients live longer without the cancer worsening, but because it's given orally, it may also require fewer visits to the doctors' office than standard chemotherapy—another important quality of life advantage." ■

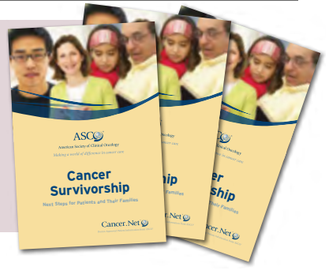
For More Information: Lung Cancer

- Guide to Lung Cancer (www.cancer.net/lung)
- EGFR Testing For Advanced NSCLC (www.cancer.net/expertsoncancernews)
- Understanding Targeted Treatments (www.cancer.net/targetedtreatments)
- Facts About Personalized Cancer Medicine (www.cancer.net/features)
- Managing Side Effects (www.cancer.net/sideeffects)

What to Ask Your Doctor

- What type of lung cancer do I have?
- What is the stage? What does this mean?
- Was my tumor tested for EGFR mutations? How will the results affect treatment?
- What are my treatment options?
- What treatment do you recommend? Why?
- What are the possible side effects? How can they be managed?

Cancer Survivorship: Next Steps for Patients and Their Families gives an overview of the challenges faced by cancer survivors and includes information on the importance of follow-up care, rehabilitation, managing long-term side effects, and maintaining lifelong health. Download the booklet at www.cancer.net/survivors, or order copies at www.cancer.net/estore.



Targeted Therapy Combination for Lymphoma Is More Effective Than Standard Chemotherapy

A long-term study shows that a combination of bendamustine (Treanda) and rituximab (Rituxan) keeps two uncommon types of non-Hodgkin lymphoma (NHL), indolent (slow-growing) lymphoma and mantle cell lymphoma, from worsening longer than standard chemotherapy. Bendamustine and rituximab are drugs called targeted therapies. Targeted therapy is a treatment that targets the cancer's specific genes, proteins, or the tissue environment that contributes to cancer growth and survival.

For a long time, the standard treatment for NHL has been rituximab plus chemotherapy with cyclophosphamide (Cytoxan), doxorubicin (Adriamycin), vincristine (Oncovin, Vincasar), and prednisone (multiple brand names). This treatment combination is commonly called R-CHOP.

In this study, patients with untreated indolent and mantle cell lymphoma received either bendamustine and rituximab or R-CHOP. Researchers found that the bendamustine and rituximab combination more than doubled the time it took for the lymphoma to worsen when compared with R-CHOP. For patients receiving bendamustine and rituximab, the lymphoma worsened nearly six years after treatment began compared with nearly three years for the patients receiving R-CHOP. In fact, bendamustine and rituximab worked so well that nearly half of the patients who had their disease worsen while taking R-CHOP were given this combination. In addition, bendamustine and rituximab caused fewer side effects, such as hair loss, nerve problems, and infections. However, patients receiving bendamustine and rituximab were more likely to have mild skin reactions, which are a common side effect of targeted therapies.

What this means for patients: "This study clearly shows that the bendamustine-based regimen is more effective and has fewer side effects than the standard chemotherapy regimen," said lead author Mathias J. Rummel, MD, PhD, Professor of Medicine at the University Hospital Giessen in Germany. "Just as important, bendamustine-based therapy allowed patients to have a better quality of life while undergoing therapy." Bendamustine has been used in Europe for decades, but only became available in the United States in 2008. The combination of bendamustine and rituximab is being used at some cancer centers in the United States. If you have indolent or mantle cell lymphoma, it's important to talk with your doctor about this drug combination in addition to all your treatment options. ■

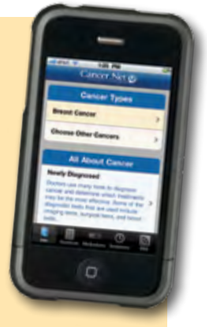
What to Ask Your Doctor

- What type of lymphoma do I have?
- What are my treatment options?
- Are bendamustine and rituximab treatment options for me?
- What treatment plan do you recommend? Why?
- What are the side effects of treatment? How will they be managed?

For More Information: Lymphoma

- Guide to Non-Hodgkin Lymphoma (www.cancer.net/nhl)
- Understanding Targeted Treatments (www.cancer.net/targetedtreatments)
- Skin Reactions to Targeted Therapies (www.cancer.net/skintargeted)
- Managing Side Effects (www.cancer.net/sideeffects)

Described as "a gem of a freebie," **Cancer.Net's app** includes interactive tools to help patients get answers to important questions, track side effects, and manage medications. Download the app at www.cancer.net/app.



Anti-Depressant Helps Manage Peripheral Neuropathy From Chemotherapy

In a new study, researchers found that the drug duloxetine (Cymbalta) helps treat a painful side effect of chemotherapy called peripheral neuropathy. Peripheral neuropathy is a condition that occurs when nerves in the body's peripheral nervous system (outside the brain and spinal cord) are damaged. Depending on where the damaged nerves are located, it can cause numbness and tingling in the hands and feet, pain, muscle weakness, constipation, and dizziness.

About 20% to 30% of patients who receive types of chemotherapy called taxanes and platinum-based chemotherapy develop peripheral neuropathy. This long-lasting side effect lowers a patient's quality of life during and after cancer treatment, and for a long time, there was no effective way to treat this condition.

This study included 231 patients who had high levels of pain caused by peripheral neuropathy from chemotherapy. They received either duloxetine followed by placebo (an inactive treatment) or a placebo followed by duloxetine. The dose was started low and then gradually increased to lessen the side effects of duloxetine, which include fatigue, dry mouth, sleepiness, and nausea. Patients completed a survey on the amount of pain they were experiencing before the study started and then weekly during the study. Researchers learned the following information from these surveys:

- 59% of the patients given duloxetine and 39% of those given the placebo felt that they had less pain
- 30% of the patients given duloxetine and 33% of those given the placebo felt no change in pain
- 11% of the patients given duloxetine and 28% of those given the placebo felt that they had more pain

These results show that when patients took duloxetine, they were more likely to have less pain and less likely to have no change or an increase in pain than when they took the placebo. The most common side effect that patients experienced during this study was fatigue, and it was more common for those taking duloxetine.

What this means for patients: "Duloxetine isn't perfect and didn't work for every patient in our study, but it was effective for a majority of people, and this was the first randomized clinical trial to show that any drug is effective for this terrible pain," said lead author Ellen M. Lavoie Smith, PhD, Assistant Professor in the School of Nursing at University of Michigan in Ann Arbor. "We now have a treatment that could improve the quality of life for many of our patients." Duloxetine is currently available to treat depression and peripheral neuropathy from diabetes. Talk with your doctor about the use of this drug to treat peripheral neuropathy from chemotherapy. ■

What to Ask Your Doctor

- What cancer treatments did I receive?
- What are the possible side effects of those treatments, both in the short term and the long term?
- How can the side effects be managed?
- If I have or develop peripheral neuropathy, what are my treatment options? Would duloxetine be considered?

Olanzapine May Manage Nausea and Vomiting From Chemotherapy When Other Treatments Fail

A recent study showed that the drug olanzapine (Zyprexa) helps manage nausea and vomiting from chemotherapy when the usual treatments for these side effects are not working. Nausea and vomiting are common, but often manageable, side effects of chemotherapy. However, despite treatments given to prevent nausea and vomiting, about 30% to 40% of patients taking certain types of chemotherapy still have nausea and vomiting. When this happens, it is called breakthrough nausea and vomiting.

In this study, researchers compared olanzapine with the drug metoclopramide (Reglan) to find out which one helped prevent breakthrough nausea and vomiting for patients receiving types of chemotherapy that are most likely to cause nausea and vomiting. Metoclopramide is often used to help prevent breakthrough nausea and vomiting, although the research is not clear if it is helpful.

The 205 patients who participated in this study had never received chemotherapy and were given the standard drugs to prevent nausea and vomiting before starting their chemotherapy. These drugs helped prevent nausea and vomiting for most of the patients. However, 80 patients experienced breakthrough nausea and vomiting. Once these patients experienced breakthrough nausea and vomiting, they received either olanzapine or metoclopramide every day for three days. For the patients who received olanzapine, 71% (30 out of 42 patients) had no vomiting and 67% (28 out of 42 patients) had no nausea. For the patients who received metoclopramide, 32% (12 out of 38 patients) had no vomiting and 24% (9 out of 38 patients) had no nausea. These results mean that, in this study, olanzapine helped to prevent nausea and vomiting better than metoclopramide.

What this means for patients: Patients often find that breakthrough nausea and vomiting from chemotherapy lowers their quality of life. In some situations, it can be severe enough that the doctor may need to a lower a patient's chemotherapy dose to reduce the symptoms, which may make chemotherapy less effective. "This study suggests that olanzapine will be very useful for patients with breakthrough nausea and vomiting who feel very sick and sometimes need to come to the clinic, hospital, or emergency room," said lead author Rudolph M. Navari, MD, PhD, Professor of Medicine, Associate Dean, and Clinical Director of the Harper Cancer Institute, Indiana University School of Medicine-South Bend.

Olanzapine is approved by the U.S. Food and Drug Administration for several mental health conditions, and it is relatively inexpensive and taken by mouth. It can cause a variety of side effects when taken daily for six months or longer. However, in this study the drug was used for only a short time. Breakthrough nausea and vomiting generally start about two to four days after chemotherapy, and according to Dr. Navari, olanzapine would not be needed for longer than three days. Talk with your doctor about how to prevent and manage nausea and vomiting from cancer treatment. ■

What to Ask Your Doctor

- Will chemotherapy be part of my treatment plan? Which drugs will be used?
- What is the risk of nausea and vomiting with these drugs?
- How will nausea and vomiting be prevented or managed before, during, and after chemotherapy?
- What options are available if I have breakthrough nausea and vomiting?

Many Primary Care Providers Are Unfamiliar With the Long-Term Side Effects of Chemotherapy

A new analysis of a large survey showed that many primary care providers (PCPs) are not familiar with the long-term side effects of four types of chemotherapy commonly used to treat breast and colorectal cancers. It is important for cancer survivors to have lifelong follow-up care to watch for long-term side effects (also called late effects), and survivors often visit PCPs for ongoing follow-up care after cancer treatment ends. This study highlights the importance of communication between

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Many Primary Care Providers Are Unfamiliar With the Long-Term Side Effects of Chemotherapy

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oncologists, PCPs, and cancer survivors to make sure survivors receive appropriate follow-up care and treatment for any long-term side effects.

Previous results from this survey, called the Survey of Physician Attitudes Regarding the Care of Cancer Survivors (SPARCCS), showed that many PCPs feel that they do not have the general knowledge and confidence to care for cancer survivors. In the new analysis of this survey, researchers focused on the PCPs awareness of common late effects of treatment, including heart problems, peripheral neuropathy (nerve problems), early menopause, and second cancers, for four commonly used breast and colorectal cancer drugs.

Researchers found that among the PCPs surveyed, 55% knew that heart problems are a late effect of doxorubicin (Adriamycin). Furthermore, about 27% knew that peripheral neuropathy is a late effect of paclitaxel (Taxol), and about 22% knew that peripheral neuropathy is a long-term side effect of oxaliplatin (Eloxatin). For cyclophosphamide (Cytoxan, Neosar), about 15% of PCPs knew that early menopause is a late effect, and about 17% knew that second cancers are a risk. For the oncologists surveyed, knowledge of the late effects ranged from 62% to 97% for the four drugs.

What this means for patients: "While we strongly encourage patients to be aware of the treatments they receive and their side effects, it is vitally important that oncologists relay this information to patients' primary care providers so their risks can be appropriately managed throughout their lives," said lead author Larissa Nekhlyudov, MD, MPH, Assistant Professor of Population Medicine at Harvard Medical School and internist at Harvard Vanguard Medical Associates in Boston, Massachusetts. "At the same time, our findings highlight the need for ongoing education among all physicians who care for cancer survivors, including oncologists, about the potential late effects of treatment." Talk with your doctor during and after treatment about creating a summary of the treatment you received, the possible long-term side effects, and the recommendations for follow-up care. ■

What to Ask Your Doctor

- What type and stage of cancer did I have?
- What treatments did I receive?
- What are the long-term side effects from treatment?
- Who will be coordinating and managing my follow-up care?
- Could you provide a written treatment summary?
- How can any late effects be managed?

For More Information: Managing Side Effects

- Side Effects of Chemotherapy (www.cancer.net/chemotherapy)
- Cancer.Net Video: Managing Side Effects of Chemotherapy, with Lynn Schuchter, MD (www.cancer.net/videos)
- Managing Side Effects (www.cancer.net/sideeffects)
- Managing Peripheral Neuropathy (www.cancer.net/features)
- Nausea and Vomiting (www.cancer.net/nauseavomiting)
- What to Know: ASCO's Guideline on Preventing Vomiting Caused by Cancer Treatment (www.cancer.net/whattoknow)
- Placebos in Cancer Clinical Trials (www.cancer.net/features)
- Cancer Survivorship (www.cancer.net/survivors)
- ASCO Cancer Treatment Summaries (www.cancer.net/treatmentsummaries)
- Late Effects (www.cancer.net/survivors)
- Keeping a Personal Medical Record (www.cancer.net/features)

Watch videos and listen to podcasts with ASCO experts discussing the recent advances highlighted at the 2012 ASCO Annual Meeting at www.cancer.net/ascoannualmeeting.

Targeted Therapy, Dabrafenib, Keeps Melanoma From Worsening Longer Than Chemotherapy

Researchers found that the drug dabrafenib reduced the risk of melanoma worsening and the risk of death from the disease when compared with chemotherapy in a new, large study of melanoma. Dabrafenib is a targeted drug. This treatment targets the cancer's specific genes, proteins, or the tissue environment that contributes to cancer growth and survival. Specifically, dabrafenib targets a mutation (change) in the *BRAF* gene, which is known to fuel melanoma growth. Another drug recently used for melanoma, vemurafenib (Zelboraf), also targets the *BRAF* mutation.

The patients who participated in this study had stage III or IV melanoma that could not be removed with surgery and had not received any treatment before the study began. During the study, they received either dabrafenib or a standard chemotherapy for melanoma, the drug dacarbazine (DTIC-Dome). Melanoma growth slowed or stopped for 50% of the patients taking dabrafenib, compared with 6% of those receiving chemotherapy. Because the study is ongoing, researchers do not have final data; they estimate that the time it takes for the melanoma to worsen for patients taking dabrafenib will be a little more than two months longer than for the patients receiving chemotherapy.

The side effects of dabrafenib include sensitivity to the sun and other skin cancers. However the number of patients who developed these side effects was low. In fact, the side effects of dabrafenib in this study were less severe than previous research on vemurafenib has shown.

What this means for patients: "For three decades, we had no new treatments for melanoma that had spread to other parts of the body. Last year, ipilimumab (Yervoy) and vemurafenib were approved, and now dabrafenib could be approved," explained lead author and global principal investigator, Axel Hauschild, MD, Professor of Dermatology at the University Hospital in Kiel, Germany. "These findings represent another advance in the treatment of melanoma." Research on dabrafenib is ongoing, and it is currently only available in clinical trials. Talk with your doctor about all the treatment options for melanoma, including clinical trials. ■

What to Ask Your Doctor

- What stage of melanoma do I have? What does this mean?
- Will tests be needed to find out if there are any gene mutations involved in my melanoma?
- What are my treatment options?
- What treatment plan do you recommend? Why?
- Is targeted therapy a treatment option?
- What clinical trials are open to me?
- What are the possible side effects? How can they be managed?

Combination of Two Targeted Therapies Slows Advanced Melanoma Growth With Fewer Side Effects

A small analysis of a larger study showed that combining two different targeted therapy drugs, dabrafenib and trametinib, stopped advanced melanoma from worsening while causing less severe side effects than the current standard targeted therapy drug. Targeted therapy is a treatment that targets a cancer's specific genes, proteins, or the tissue environment that contributes to cancer growth and survival. Specifically, dabrafenib targets changes in the *BRAF* gene, and trametinib targets changes in the *MEK* gene to stop melanoma growth.

About half of melanomas have a specific genetic change in the *BRAF* gene that drives cancer

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Combination of Two Targeted Therapies Slows Advanced Melanoma Growth

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growth. In these tumors, the *MEK* gene often contributes to tumor growth, as well. The current standard targeted therapy approved by the U.S. Food and Drug Administration in 2011, vemurafenib (Zelboraf), also targets the *BRAF* gene. However, the drug eventually stops working for most patients, highlighting the importance of additional treatment options.

This analysis included a subgroup of 77 patients (out of 125 patients in the main study who received dabrafenib and trametinib) with advanced melanoma who had not yet received any treatments that target the *BRAF* gene. Although the study is ongoing, so far these patients have not had their cancer worsen for about 7 months, which is similar to studies on vemurafenib. This means that the new drug combination appears to work as well as the current standard targeted therapy. However, studies on vemurafenib have shown that up to 25% of patients develop skin side effects, such as skin cancer and other precancerous skin conditions. In this recent study, 2% of the 125 patients receiving dabrafenib and trametinib developed these skin conditions, which means the combination of these drugs appears to cause fewer side effects than the previous research on vemurafenib has shown.

What this means for patients: "Not only are the two drugs shrinking the cancer, but we're seeing that a second anticancer therapy may actually lower the side effects of the first," said Jeffrey Weber, MD, PhD, a senior member at H. Lee Moffitt Cancer Center and Director of the Donald A. Adam Comprehensive Melanoma Research Center in Tampa, Florida. Research on dabrafenib and trametinib is ongoing, and these drugs are not yet available outside of clinical trials. Talk with your doctor about all treatment options for melanoma, including clinical trials. ■

What to Ask Your Doctor

- What stage of melanoma do I have? What does this mean?
- What are my treatment options?
- What clinical trials are open to me?
- Will targeted therapy be an option for treatment? If so, which drugs will be used?
- What is my prognosis (chance of recovery) with these drugs?
- What are the possible side effects? How will they be managed?

New Targeted Therapy for Advanced Melanoma Lengthens Patients' Lives

A recent study showed that the drug trametinib slowed tumor growth and lengthened the lives of patients who have advanced melanoma with a *BRAF* gene mutation (change). Trametinib is a type of treatment called targeted therapy. Targeted therapy targets the cancer's specific genes, proteins, or the tissue environment that contributes to cancer growth and survival. Currently, there is one targeted therapy approved to treat melanoma that targets the *BRAF* gene, called vemurafenib (Zelboraf). However, vemurafenib eventually stops controlling melanoma growth for most patients, highlighting the need for other treatment options. Trametinib targets the MEK protein, which affects melanoma growth similarly to a mutated *BRAF* gene, which is why researchers are studying this treatment for melanoma.

The patients who participated in this study had advanced melanoma with a *BRAF* mutation and had received either one treatment or no treatment before the study began. During the study, they received trametinib or standard chemotherapy with either dacarbazine (DTIC-Dome) or paclitaxel (Taxol). Trametinib slowed or stopped melanoma growth for 22% of patients receiving the drug, compared with 8% of those who received chemotherapy.

Trametinib also lengthened the amount of time it took for the melanoma to worsen by a little more than three months when compared with chemotherapy. After six months, 81% of patients taking trametinib were living with the disease, compared with 67% of those who received chemotherapy. Because trametinib worked so well to control melanoma growth in this study, almost half of the patients who had their disease worsen while receiving chemotherapy were switched to trametinib.

The side effects of trametinib were generally manageable for patients in this study and included rashes, eye problems, high blood pressure, and reduced heart function.

What this means for patients: "This is the first in a new type of targeted drugs that could benefit patients with melanoma who have *BRAF* gene mutations. The findings show that blocking the MEK protein is an effective treatment for many people with the disease," said lead author Caroline Robert, MD, PhD, Head of Dermatology at the Institute Gustave Roussy in Paris, France. "Trametinib is likely to become another initial treatment option for patients with advanced melanoma." Because research on trametinib is ongoing, it is currently only available in clinical trials. It's important to talk with your doctor about all treatment options for melanoma, including clinical trials. ■

What to Ask Your Doctor

- What stage of melanoma do I have? What does this mean?
- Will tests be needed to find out if there are any gene mutations involved in my melanoma?
- What are my treatment options?
- What treatment plan do you recommend? Why?
- Will targeted therapy be a part of my treatment plan?
- What are the possible side effects? How can they be managed?

For More Information: Melanoma

- Guide to Melanoma (www.cancer.net/melanoma)
- Clinical Trials (www.cancer.net/clinicaltrials)
- Understanding Targeted Treatments (www.cancer.net/targetedtreatments)
- Targeted Therapy Finder—Melanoma (www.cancer.net/melanoma)
- Skin Reactions to Targeted Therapies (www.cancer.net/skintargeted)
- Managing Side Effects (www.cancer.net/sideeffects)

Adding Bevacizumab to Chemotherapy Keeps Ovarian Cancer From Worsening Longer Than Chemotherapy Alone

According to a recent study, giving bevacizumab (Avastin) along with standard chemotherapy doubled the time it took for platinum-resistant ovarian, fallopian tube, and primary peritoneal cancers to worsen. These are all cancers of a woman's reproductive system that are treated similarly. Platinum-based chemotherapy is often the first treatment for these cancers and includes the drugs cisplatin (Platinol), carboplatin (Paraplat, Paraplatin), and oxaliplatin (Eloxatin). When platinum-based drugs stop working to control the cancer's growth, it is called platinum-resistant cancer.

This study included 361 patients who had ovarian, fallopian tube, or primary peritoneal cancer that had worsened within six months of their last dose of platinum-based chemotherapy. During the study, patients received either bevacizumab plus chemotherapy with paclitaxel (Taxol), topotecan (Hycamtin), or liposomal pegylated doxorubicin (multiple brand names), or they received only chemotherapy.

After a little over a year, researchers found that 75% (135 out of 179 patients) of the patients who received bevacizumab plus chemotherapy had a recurrence (cancer that comes back after treatment), compared with 91% (166 out of 182 patients) who received chemotherapy alone. In

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OVARIAN CANCER

Adding Bevacizumab to Chemotherapy Keeps Ovarian Cancer From Worsening Longer

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addition, researchers found that the time it took for the cancer to worsen was nearly seven months for patients who received bevacizumab and chemotherapy, compared with a little more than three months for those who received chemotherapy alone.

In this study, the patients receiving bevacizumab plus chemotherapy had more moderate side effects than those who received chemotherapy alone. These side effects included high blood pressure and gastrointestinal perforations (tears in the lining of the bowel).

What this means for patients: "Bevacizumab offers a new treatment option for the 20% of women who have primary platinum-resistant ovarian cancer, as well as those whose disease later becomes platinum-resistant," said lead study author Eric Pujade-Lauraine, MD, PhD, Professor, Université de Paris Descartes, France and Head of the Group d'Investigateurs Nationaux pour l'Etude des Cancers Ovariens (GINECO), a clinical trials cooperative group based in France. "For the first time in platinum-resistant ovarian cancer, we have been able to use a combination therapy to significantly improve the time it takes for the disease to worsen." ■

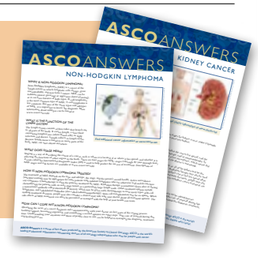
For More Information: Ovarian Cancer

- Guide to Ovarian Cancer (www.cancer.net/ovarian)
- Guide to Fallopian Tube Cancer (www.cancer.net/fallopian)
- When the First Treatment Doesn't Work (www.cancer.net/features)
- Managing Side Effects (www.cancer.net/sideeffects)

What to Ask Your Doctor

- What type and stage of cancer do I have? What does this mean?
- What are my treatment options?
- What treatment plan do you recommend? Why?
- What is the next step if the current treatment stops working?
- What are the side effects of treatment? How can they be managed?

ASCO Answers is a series of fact sheets that provide an introduction to a specific type of cancer or cancer-related topic. These fact sheets can be downloaded at www.cancer.net/ascoanswers, or ordered at www.cancer.net/estore.



PROSTATE CANCER

Abiraterone Plus Hormone Therapy Is an Effective Treatment for Some Men With High-Risk Prostate Cancer

About one-third of men with localized, high-risk prostate cancer who received the drug abiraterone (Zytiga) along with hormone therapy before surgery had little to no cancer remaining after six months of treatment, according to a recent clinical trial. Prostate cancer is called localized high-risk prostate cancer when the tumor has grown throughout the prostate, is high grade (meaning the cancer cells barely look like normal cells, called a Gleason score of 8), and the man has a prostate-specific antigen (PSA) level higher than 20.

Men with this type of prostate cancer often have a poor prognosis (chance of recovery) because the cancer often spreads to other parts of the body, even with treatment. Hormone therapy lowers levels of the hormone testosterone, which prostate cancers use to grow and spread. Abiraterone also blocks the production of testosterone, which means that these two treatments together may be more effective to stop prostate cancer growth. Abiraterone has been used to treat advanced prostate cancer, but this is the first time it has been studied for earlier-stage prostate cancers.

In this study, researchers combined abiraterone with leuprolide (Lupron, Viadur), a standard hormone therapy for prostate cancer, for two groups of men with localized, high-risk prostate cancer. One group included 27 men who received leuprolide for 12 weeks, followed by another 12 weeks of leuprolide plus abiraterone. The second group included 29 men who received both abiraterone and leuprolide for 24 weeks. After treatment was finished, all of the men in the study had surgery to look for any cancer remaining in the prostate.

Of the men who received 24 weeks of abiraterone and leuprolide, 34% had little to no cancer remaining in the prostate. For the men who received 12 weeks of abiraterone plus leuprolide, 15% had little to no cancer remaining in the prostate. These results indicate that the longer combination of abiraterone and leuprolide may work better to treat this type of prostate cancer.

What this means for patients: "For this many patients with high-risk disease to have very little to no cancer in the prostate after six months of treatment is dramatic," said lead author Mary-Ellen Taplin, MD, Associate Professor of Medicine at Harvard Medical School and the Dana-Farber Cancer Institute in Boston, Massachusetts. "Our findings suggest that this combination could improve outcomes for many men, but larger, long-term studies are needed." Talk with your doctor to learn more about all treatment options for prostate cancer, including clinical trials. ■

What to Ask Your Doctor

- What stage of prostate cancer do I have? What does this mean?
- What are my treatment options?
- Will hormone therapy be used? What other treatments are needed?
- What is my prognosis?
- What are the side effects of the recommended treatments?

Intermittent Hormone Therapy Less Effective Than Continuous Therapy for Some Men With Advanced Prostate Cancer

A long-term study comparing two common hormone therapy schedules showed that intermittent (short breaks in treatment) hormone therapy is less effective than continuous (no breaks in treatment) hormone therapy for men with hormone-sensitive prostate cancer with minimal disease spread (cancer that has not spread beyond the spine, pelvis, and lymph nodes). Hormone-sensitive prostate cancer is cancer that uses male sex hormones called androgens, such as testosterone, to grow and spread. Hormone therapy, also called androgen ablation or androgen-deprivation therapy, lowers levels of androgens in the body to help keep the cancer from growing or spreading. Eventually, metastatic prostate cancer (cancer that has spread) develops a resistance to hormone therapy, meaning the treatment stops working to control the cancer's growth.

Hormone therapy causes side effects that can affect a man's quality of life, such as impotence, loss of sexual desire, hot flashes, and weight gain. Because of early research on hormone therapy, doctors thought intermittent hormone therapy could decrease these side effects and delay the cancer from developing a resistance to treatment. This study shows that this may not be the case for some men with prostate cancer.

The 1,500 men who participated in this study received either intermittent hormone therapy or continuous hormone therapy after their prostate-specific antigen (PSA) levels fell to 4 nanograms (ng)/milliliter (ml) or lower after seven months of continuous hormone therapy. A decreasing PSA level is a sign that the treatment is working to control the cancer's growth. Because intermittent therapy includes breaks in treatment, the men receiving intermittent hormone therapy received about half as much hormone therapy as the men receiving continuous hormone therapy.

In this study, the men with minimal disease spread who

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Intermittent Hormone Therapy Less Effective for Some With Advanced Prostate Cancer

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received continuous hormone therapy lived about two years longer than those receiving intermittent hormone therapy (7 years compared with 5 years). Men with prostate cancer that had spread more widely throughout the body lived about the same amount of time whether they had intermittent or continuous hormone therapy.

What this means for patients: "Some doctors recommend intermittent hormone therapy to men with metastatic prostate cancer, believing it will reduce their risk of side effects without compromising their outcome, but these findings show a clear downside to this approach for certain men," said lead author Maha Hussain, MD, Professor of Medicine and Urology at the University of Michigan Comprehensive Cancer Center in Ann Arbor. "The findings clearly show that intermittent hormone therapy is not safe for all patients with metastatic prostate cancer." Intermittent hormone therapy may still be used for men with prostate cancer that has spread more widely or for men with prostate cancer that has not spread. It's important to talk with your doctor about the recommended schedule of hormone therapy for your specific prostate cancer. ■

What to Ask Your Doctor

- What stage of prostate cancer do I have? What does this mean?
- What are my treatment options?
- Will hormone therapy be a part of treatment?
- What type of treatment schedule do you recommend? Why?
- What are the side effects of treatment? How can they be managed?

For More Information: Prostate Cancer

- Guide to Prostate Cancer (www.cancer.net/prostate)
- Clinical Trials (www.cancer.net/clinicaltrials)
- What to Know: ASCO's Guideline on Hormone Therapy for Advanced Prostate Cancer (www.cancer.net/whattoknow)
- Hormone Deprivation Symptoms: Men (www.cancer.net/hormonemen)
- When the First Treatment Doesn't Work (www.cancer.net/features)
- After Treatment for Prostate Cancer: Managing Side Effects (www.cancer.net/features)

Lower-Income Patients Less Likely to Participate in Clinical Trials

A large national survey of people with cancer showed that a patient's income strongly predicts whether he or she will participate in a clinical trial. A clinical trial is a research study involving people. A clinical trial may focus on new treatments, new methods to prevent cancer, and ways to manage the symptoms and side effects of cancer and cancer treatment.

This survey used an online treatment decision tool to collect information from 5,499 patients newly diagnosed with breast, lung, colorectal, or prostate cancer. Researchers found that patients who made less than $50,000 a year were 30% less likely to participate in a clinical trial than those with a higher income. In addition, patients whose income was less than $20,000 a year were 44% less likely to participate in a clinical trial than patients with an income higher than $20,000 a year. Among the patients with a lower income, researchers found that concerns about how to pay for participating in a clinical trial were much higher.

Researchers also found that 40% of patients had talked about clinical trials with their doctors. Out of these patients, 45% were offered treatment in a clinical trial, and 51% of those offered treatment in a clinical trial participated in one. This level of clinical trial participation is much higher than that of the overall survey, which was 9%. This means that discussing clinical trials is an important factor in determining whether patients receive treatment in a clinical trial.

What this means for patients: "Previous research has shown some association between cancer clinical trial participation and income, but the income was not reported by the patients. This is the first time in a large, national study that we have actual patient-reported income on which to base this finding," said the study's lead author, Joseph M. Unger, MS, PhC, a health services researcher and statistician with the SWOG Statistical Center at the Fred Hutchinson Cancer Research Center in Seattle, Washington. "Our study found that after accounting for all factors such as age, education, sex, race, medical conditions, and distance to a clinic, income on its own was associated with a patient's clinical trial participation."

This study did not look at the specific cost concerns of patients with lower incomes. However, possible financial challenges may include co-pays and co-insurance and taking time off work to go for a clinic visit. These costs are also often associated with any cancer treatment. It's important to talk with your doctor about your treatment options, including participating in clinical trials and the costs you may need to pay. ■

What to Ask Your Doctor

- What type of cancer do I have? What is the stage?
- What are the treatment options?
- What clinical trials are open to me?
- Where can I learn more about clinical trials?
- If I'm worried about the cost of my cancer care, who can help me with those concerns?

More Complete Family Histories Needed to Recommend Genetic Testing

In 2011, ASCO's Quality Oncology Practice Initiative (QOPI) tested how a patient's family history was collected and whether genetic testing was recommended for patients with breast or colorectal cancers. QOPI is a national program designed to measure the care provided to patients so each doctor's office or treatment center that participates in the program can use that information to improve the cancer care they provide.

Keeping a patient's family history of cancer is important to understand their risk of cancer and learn if they might benefit from genetic counseling or genetic testing. Furthermore, people with family members who have had breast or colorectal cancer tend to have a higher risk of developing the same cancers. Previous studies have shown that many patients do not have full family histories in their medical records and have not been recommended for genetic testing or counseling.

The 213 doctors' offices and treatment centers that participated in this study looked through 10,466 medical records for information on family history and recommendation for genetic counseling or testing. Researchers found that 77% of the patients' medical records included a family history of cancer in their first-degree relatives (parent, sibling, child), and 61% had a history for their second-degree relatives (grandparent, grandchild, aunt or uncle, niece or nephew). However, less than a third of the medical records with a family history included the age at which the family members were diagnosed with cancer.

Researchers also found that genetic counseling or testing was recommended for 22% of all patients. For patients with an increased risk based on family history, genetic counseling or testing was recommended for 52% of those with breast cancer and 26% of those with colorectal cancer. When genetic testing was done at the doctor's office or treatment center, almost 78% of the patients had agreed to have the testing, and about 79% of patients talked with their doctors about the results of testing.

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More Complete Family Histories Needed to Recommend Genetic Testing

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What this means for patients: "An accurate family history and appropriate referral to genetic testing is important for a patient's treatment and follow-up care, as well as for their family members," said lead author Marie Wood, MD, Professor of Medicine, Director of the Familial Cancer Program and Deputy Director of Hematology/Oncology at University of Vermont in Burlington. To help create your family history, talk with your family about whether any of your relatives have been diagnosed with cancer, including the type of cancer they might have had and the age they were diagnosed. Learning more about the history of cancer in your family can help you better understand your and your family's risk of cancer. ■

What to Ask Your Doctor

- Do you have my family history of cancer recorded in my file?
- What information do you need to create my family history?
- What is my risk of cancer?
- Should I visit with a genetic counselor or have any genetic testing?
- If I choose genetic testing, who will help me understand the results?

For More Information: Quality Cancer Care

- Clinical Trials (www.cancer.net/clinicaltrials)
- Managing the Cost of Cancer Care (www.cancer.net/managingcostofcare)
- Making Treatment Decisions (www.cancer.net/treatmentdecisions)
- The Genetics of Cancer (www.cancer.net/genetics)
- Understanding Cancer Risk (www.cancer.net/prevention)
- Genetic Testing (www.cancer.net/genetics)
- What to Expect When Meeting With a Genetic Counselor (www.cancer.net/genetics)
- Sharing Genetic Test Results With Your Family (www.cancer.net/genetics)

Cancer.Net™

For more information, visit ASCO's patient website, **www.cancer.net**, or call 888-651-3038.

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