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THE
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Cancer research news for clinicians

Lung Cancer:

Iressa Just As Effective As Chemotherapy For Second-Line Therapy, Study Finds

Gefitinib, also known as Iressa, the once-promising targeted therapy for the treatment of non-small cell lung cancer, has proven as effective as chemotherapy as a second-line therapy for the disease with far fewer side effects, according to an international phase III clinical trial, led by researchers at University of Texas M. D. Anderson Cancer Center.

However, in contrast to earlier Iressa findings, the study showed that there was no additional survival benefit for patients who expressed an elevated level of the epidermal growth factor receptor mutation.

The Iressa in Non-small cell lung cancer Trial Evaluating Response and

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Acute Myeloid Leukemia:

High Dose Chemotherapy Significantly Prolongs Survival In ECOG Clinical Trial

Preliminary results from a large, randomized clinical trial for patients ages 16 to 60 with previously untreated acute myeloid leukemia show that patients who received a high dose of a commercially available chemotherapy drug, daunorubicin, during initial therapy lived longer than patients who received a standard dose of the same drug.

Daunorubicin, originally approved by FDA in 1979, inhibits DNA replication and repair and leads to cell death. The clinical trial was sponsored by NCI and conducted by a network of researchers led by the Eastern Cooperative Oncology Group.

The Data Monitoring Committee overseeing the trial (known as E1900) recommended that the results of a recent interim analysis be made public because the study had met its primary endpoint of demonstrating improved overall survival.

The patients in the trial who received the higher dose of daunorubicin (90 milligrams per square meter of body surface area, or 90mg/m^2, given on each of the first three days of treatment) in combination with standard treatment of a chemotherapy drug used for AML since the 1960s, ara-C (cytarabine), had a median overall survival of 23.7 months compared to patients treated with the standard dose of daunorubicin (45 mg/m^2 given on each of the first three days of treatment) in combination with ara-C, who had a median overall survival of 15.1 months. This survival difference was highly statistically significant.

Also, the frequency of serious treatment toxicities observed in this study

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Large Study Finds Iressa As Effective As Chemotherapy

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Survival versus Taxotere (INTERST) study, published in The Lancet, represents a paradigm shift for the treatment of the disease, according to lead author Edward Kim, assistant professor in M. D. Anderson's Department of Thoracic Head and Neck Medical Oncology. It marks the first time in lung cancer that an oral pill has proven as effective as chemotherapy in a head-to-head trial.

"This is the largest study in lung cancer comparing an oral biologic therapy to chemotherapy, and shows, for the first time, that an oral biologic therapy is just as effective as chemotherapy," said Kim, the study's corresponding author. "Based on our findings, I'm hopeful that Iressa can return as a treatment for lung cancer in the United States, offering this some patients a therapy with far fewer side effects."

The study also should offer both physicians and patients some confidence in another biological oral therapy, erlotinib, commercially known as Tarceva, that hits similar targets as Iressa and is commercially available for the treatment of lung cancer in the second line setting, Kim said.

Iressa, a once-daily, oral tablet, was the first in a new class of anti-cancer drugs known as EGFR tyrosine kinase inhibitors to become commercially available after two phase II trials found the drug to be efficacious. Iressa was fast-tracked to the FDA and received approval May 5, 2003 as a single agent treatment for patients whose advanced lung cancer had continued to progress despite treatment with platinum-based and docetaxel chemotherapy.

However, in 2005, a large randomized lung cancer study reported that Iressa failed to significantly improve survival in patients with non-small cell lung cancer when compared to placebo.

Ultimately, the drug's labeling was altered by the FDA; only cancer patients who had already taken the medicine and whose physicians believed it was helping them were allowed to receive the drug. No new lung cancer patients in the U.S. were given the drug after this time. However, Iressa remained an available therapy in other countries around the world.

Just prior to these negative findings, the INTEREST study began to enroll patients in 2004. Because of the negative data, INTEREST, an FDA-mandated study, was halted in the U.S. but continued in other parts of the world.

The phase III study enrolled 1,466 lung cancer patients from 149 centers in 24 countries. Of those enrolled, 1,433 were evaluable. All had either locally advanced or metastatic disease and had been previously treated for their cancer.

Patients were randomized to receive either Iressa (250 milligrams daily) or docetaxel (75 mg/m2) every three weeks. The study had two primary survival endpoints: in all treated patients and in those whose tumors had high EGFR gene copy number.

When comparing all treated patients, median overall survival for those receiving Iressa was 7.6 months and one-year survival was 32 percent, compared to 8 months and a 34 percent one-year survival for those taking chemotherapy.

In an assessment of quality of life, Iressa patients experienced far fewer side effects, with the most common being a rash and diarrhea. In contrast, patients taking docetaxel experienced low blood count, infection, and hair loss.

In the subgroup of 174 patients with a high EGFR gene copy number, median overall survival in the Iressa arm was 8.4 months and one-year survival was 32 percent, versus 7.5 months overall survival and a one-year survival rate of 35 percent for those taking chemotherapy.

Tissue samples were evaluable for at least one biomarker in 453 patients. In an additional analysis of the biomarkers EGFR and K-ras mutations, the study indicates that both mutations are overall prognostic survival markers for lung cancer, but not predictive to treatment with either therapy.

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"Our study found that patients who received Iressa and whose tumors had EGFR mutations will have an improved response rate and progression-free survival compared to docetaxel, but overall survival was similar in both treatment groups. In contrast, the K-ras gene mutation proved to be an overall poor prognostic marker, with both treatment arms doing poorly," said Kim.

"As lung cancer researchers, our mandate is to focus on finding appropriate biomarkers for the disease so ultimately, we can begin to tailor therapies for lung cancer patients based on their individual tumor characteristics."

The study was funded by AstraZeneca, makers of Iressa. Kim has received research funding from, and served as a consultant for, both AstraZeneca and Sanofi-Aventis, the makers of docetaxel.

Novel Four Drug Combination Safe For Lung Cancer Therapy

The four drug-combination of carboplatin and paclitaxel, with the targeted therapies bevacizumab (Avastin) and cetuximab (Erbitux), is safe and may improve survival for patients with advanced lung cancer, according to a cooperative group study led by the University of Texas M. D. Anderson Cancer Center.

Presented at the 2008 Chicago Multidisciplinary Symposium in Thoracic Oncology, sponsored by ASTRO, ASCO, IASLC and the University of Chicago, the study is the first to investigate in lung cancer a four-drug regimen of two standard chemotherapies and targeted therapies.

The Southwest Oncology Group phase II study was led by Edward Kim, assistant professor in M. D. Anderson's Department of Thoracic Head and Neck Medical Oncology. Until now, the SWOG standard regimen for lung cancer has been carboplatin, paclitaxel and Erbitux, explained Kim. With the addition of Avastin, this study looked to increase efficacy without compromising safety.

"We could not conduct a study with four chemotherapeutic agents in patients due to toxicity concerns," said Kim, the study's principal investigator. "The rationale behind the study was the finding that Avastin enhances the efficacy of existing therapy, thereby possibly improving the carboplatin-paclitaxel-Erbitux regimen."

Data in lung cancer has also suggested there's a "synergistic effect" of pairing the epidermal growth factor (EGFR) inhibitor compounds with the vascular endothelial growth factor (VEGF) inhibitor.

The SWOG study came at a crossroads for lung cancer—soon after a study was presented showing the benefits of adding Avastin to standard chemotherapy, and prior to a study showing a modest survival benefit when Erbitux is combined with chemotherapy.

Between August 2006 and September 2007, the large phase II study enrolled 110 Stage IIIB or IV non-small cell lung cancer patients, 99 of whom were able to be evaluated. Patients received six cycles of the four-drug regimen, and as maintenance, continued receiving both Avastin and Erbitux. It's unique for a trial to feature a two-drug maintenance biologic therapy combination, Kim said.

The study met its primary endpoint, safety, defined by frequency of pulmonary hemorrhage, or bleeding, a concern related to Avastin. There were four treatment-related deaths and two due to bleeding, which is consistent with prior Avastin studies. Adverse events such as low blood counts and neuropathy were reported in 40 patients, also consistent with standard chemotherapy.

Secondary endpoints included response rate, progression-free survival and overall survival. Of patients enrolled, 53 percent had shrinkage of their tumors and 24 percent had stable disease. The median progression-free survival rate was seven months and overall survival was 14 months. In contrast, previous SWOG studies showed an average progression-free survival rate of five-and-a-half months and overall survival of 12 months.

A biomarker analysis of this study is ongoing and a randomized phase III study is planned, with the trial scheduled to open in 2009.

Acute Myeloid Leukemia:

High Dose Chemotherapy Prolongs Survival In Trial

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was similar between the high-dose and standard-dose daunorubicin treatment groups.

"The findings of this large clinical trial are important because they will likely change practice and improve the outcome for many patients with AML," said Martin Tallman, chairman of the ECOG Leukemia Committee and professor of Medicine at Northwestern University Feinberg School for Medicine and the Robert H. Lurie Comprehensive Cancer Center. The study chairman was Hugo Fernandez, M.D., associate professor of Medicine and Oncology and associate chief of the Blood & Marrow Transplantation Division at the H. Lee Moffitt Cancer Center and Research Institute.

A total of 633 patients with non-promyelocytic AML who had not previously received chemotherapy were enrolled in this study between December 2004 and September 2008. Patients were randomly assigned to one of two treatment groups to receive initial, or induction, chemotherapy with either high-dose or standard-dose daunorubicin with ara-C. Patients who were assessed as having a complete, positive response to induction therapy were then treated with additional therapy. As of September 2008, 334 patients proceeded to the next, or consolidation step of the study.

In this trial, those patients with unfavorable prognostic factors and/or matching sibling donors were treated with an allogeneic (donor) transplant whenever possible.

Among those who received standard-dose daunorubicin, 4.7 percent underwent allogeneic hematopoietic stem cell transplantation (HSCT). For those randomized to high-dose daunorubicin, 5.7 percent underwent allogeneic HSCT. There were no differences between the treatment groups in terms of subsequent chemotherapy or autologous transplantation that affect the results of the trial.

Because daunorubicin is an FDA-approved drug for AML, patients with this disease can potentially gain immediate benefit from the results of this trial.

"This trial is a prime example of a study question that would only have been carried out by an NCI-sponsored oncology cooperative group, because the agent tested in the trial has been in common use for this disease for more than three decades and there's little incentive for commercial concerns to test an already approved product," said James Doroshow, director of the NCI Division of Cancer Treatment and Diagnosis.

Overall, only about 33 percent of those with AML survive the disease, and survival is less likely with increasing age. Advances in AML therapy depend in large part on the ability to increase the initial response to induction therapy.

AACR Cancer Prevention Conference:
No Protective Effect From Long-Term Vitamin E or C

A large-scale prevention study presented at the American Association for Cancer Research International Conference on Frontiers in Cancer Prevention Research shows no protective effect from vitamin E on prostate cancer or vitamin C supplementation on total cancer.

The Physicians' Health Study II is a large-scale, long-term, randomized clinical trial that included 14,641 physicians who were at least 50 years old at enrollment. These physicians were given 400 IU of vitamin E every other day or its placebo, or 500 mg of vitamin C daily or its placebo.

Researchers followed these patients for up to 10 years for the development of cancer with high rates of completion of annual questionnaires, and the confirmation of reported cancer endpoints.

Analyses indicate that randomization to vitamin E did not have a significant effect on prostate cancer. This lack of effect for vitamin E also extended to total cancer. Vitamin C had a similar lack of effect on total cancer.

"After nearly 10 years of supplementation with either vitamin E or vitamin C, we found no evidence supporting the use of either supplement in the prevention of cancer," said Howard Sesso, assistant professor of medicine at Brigham and Women's Hospital. "While vitamin E and C supplement use did not produce any protective benefits, they also did not cause any harm."

Previous laboratory research and observational studies in which people who reported eating a diet rich in vitamins E and C were found to have a lower risk of cancer, had suggested that taking these vitamins as individual supplements may offer some protective benefits.

"Individual vitamin supplements such as vitamin E and C do not appear to provide the same potential advantages as vitamins included as part of a healthy, balanced diet," said J. Michael Gaziano, study co-author and principal investigator, and associate professor of medicine at Harvard Medical School.

Teaching Breast Health Early in D.C.

Early breast health education may be the key to lowering breast cancer mortality rates in Washington, D.C., which has the highest rates in the country, according to research presented at the AACR conference.

Project Early Awareness, a breast cancer education program of Howard University Cancer Center, brings a young survivor into high school classrooms to dispel breast cancer myths, provide breast cancer facts, and teach breast self exams. While only about five percent of breast cancer cases occur in women under the age of 40, learning to understand breast cancer at a young age may lead to early diagnosis later in life.

"We want young women to know and understand their bodies," said Kimberly Higginbotham, the program's instructor and a young breast cancer survivor. "The goal is for breast self exams to become routine."

The program, which started with three schools and has extended to 17, has instructed more than 2,800

girls and their families. Each student is given a pre-test and post-test to gauge the effectiveness of the program. Howard University has seen students increase their comfort and ability to perform a breast self exam by 39 percent and their ability to answer breast cancer questions correctly increase by 69 percent.

Breast cancer mortality rates are well above average for African-American women living in D.C.

Exercise and Rest Reduce Cancer Risk

A study presented at the AACR conference suggests that regular physical activity can lower a woman's overall risk of cancer—but only if she gets a good night's sleep. Otherwise, lack of sleep can undermine exercise's cancer prevention benefits.

"Greater participation in physical activity has consistently been associated with reduced risk of cancer incidence at several sites, including breast and colon cancers," said James McClain, cancer prevention fellow at NCI and lead author of the study. "Short duration sleep appears to have opposing effects of physical activity on several key hormonal and metabolic parameters, which is why we looked at how it affected the exercise/cancer risk relationship."

Even though the exact mechanism of how exercise reduces cancer risk isn't known, researchers believe that physical activity's effects on factors including hormone levels, immune function, and body weight may play an important role. The study examined the link between exercise and cancer risk, paying special attention to whether or not getting adequate sleep further affected a women's cancer risk.

Researchers assessed the association between physical activity energy expenditure (PAEE), sleep duration and incidence of overall, breast, and colon cancer in 5,968 women at least 18 years old with no previous cancer diagnoses. The women completed an initial survey in 1998 and were then tracked through the Washington County Cancer Registry and Maryland State Cancer Registry for nearly 10 years.

The results pointed to a sleep-exercise link. "Current findings suggest that sleep duration modifies the relationship between physical activity and all-site cancer risk among young and middle-aged women," he said.

Out of those 5,968 women, 604 experienced a first incidence of cancer, including 186 breast cancer cases. Women in the upper 50 percent of PAEE showed significantly reduced risk of overall cancer and breast cancer. Among women 65 or younger when surveyed and in the upper half of PAEE, sleeping less than seven hours a day increased overall cancer risk, negating much of the protective effects of physical activity on cancer risk for this group.

The next step, says McClain, would be to confirm current findings and investigate potential mechanisms underlying the interaction between sleep and exercise in order to better understand their roles in cancer prevention.

Family History Increases Risk of Breast Cancer

New data presented at the AACR conference assesses breast cancer risk among women with a strong family history of breast cancer, but without a BRCA1 or BRCA2 mutation. This may facilitate earlier detection and prevention among high-risk women.

The study, conducted at the University of Toronto, showed that women with a significant family history of breast cancer remain at increased risk for developing the disease, despite having negative BRCA1 and BRCA2 gene mutations. These mutations typically signal a need for preventive treatment. The excess risk was about four-fold higher than that of average women.

"In clinical practice we often see families with a significant history of breast cancer and negative BRCA1 and BRCA2 tests, and it is often difficult to counsel them about their risk without this information," said Steven Narod, the study's senior author. "It is clear that genes are involved, but it is hard to be more specific."

Narod, who holds the Canada Research Chair in breast cancer at the University of Toronto and Women's College Research Institute, said this new data would help physicians counsel their patients. "Now when we see families such as this, we will be able to offer better advice about their actual risk. It is clear to me that the risk is high enough that we need to discuss options such as breast MRI for screening and chemoprevention with tamoxifen or raloxifene." said Narod.

Narod followed 1,492 women from 365 families with negative BRCA1 and BRCA2 genetic mutations for a minimum of five years. The women had a family history of either two or more cases of breast cancer among close relatives under the age of 50 or three cases among close relatives at any age.

Breast cancer rates among these women were compared with control rates found in local breast cancer registries, and researchers noted a 4.3-fold increase.

The highest relative risk was among women under the age of 40, where the increased risk was nearly 15 times higher. Absolute risk was highest among women age 50 to 70 at one percent per year compared with 0.4 percent per year among women between the ages of 30

and 50. This translates into about 30 to 40 percent over their lifetime.

Broccoli May Lower Cancer Risk in Smokers

The cancer preventive properties of broccoli and other cruciferous vegetables appear to work specifically in smokers, according to data presented at the AACR conference.

Cruciferous vegetables have been shown to be protective in numerous studies, but this is the first comprehensive study that showed a protective benefit in former smokers, according to lead author Li Tang, a post-doctoral fellow at Roswell Park Cancer Institute.

"Broccoli is not a therapeutic drug, but for smokers who believe they cannot quit nor do anything about their risk, this is something positive," Tang said. "People who quit smoking will definitely benefit more from intake of cruciferous vegetables."

Li and colleagues conducted a hospital-based, case-controlled study with lung cancer cases and controls matched on smoking status. The study included all commonly consumed cruciferous vegetables, and also considered raw versus cooked form. Researchers performed statistical calculations to take into account smoking status, duration and intensity.

Among smokers, the protective effect of cruciferous vegetable intake ranged from a 20 percent reduction in risk to a 55 percent reduction in risk depending on the type of vegetable consumed and the duration and intensity of smoking.

For example, among current smokers, only the consumption of raw cruciferous vegetables was associated with risk reduction of lung cancer. No significant results were found for consumption of vegetables in general and fruits.

Researchers further divided their findings by four subtypes of lung cancer and found the strongest risk reduction among patients with squamous or small-cell carcinoma. These two subtypes are more strongly associated with heavy smoking.

"These findings are not strong enough to make a public health recommendation yet," said Li. "However, strong biological evidence supports this observation. These findings, along with others, indicate cruciferous vegetables may play a more important role in cancer prevention among people exposed to cigarette-smoking."

Cancer Risk Higher In Individuals With HIV

The risk of non-AIDS cancer is higher for individuals infected with HIV than for the general population, according to a meta-analysis presented at the AACR conference.

Compared with the general population, the risk for non-AIDS cancers was 2.3 times higher for men with HIV and 1.5 times greater for women with HIV. Among individuals with HIV, however, incidence rates were similar for those with AIDS and those without, relative to the general population.

Although the researchers did not examine why non-AIDS cancers may occur at a greater rate among individuals with HIV, clinicians should be aware of this potential increased risk when examining patients with HIV, said Meredith Shiels, an epidemiologist at Johns Hopkins School of Public Health.

"In particular, clinicians of HIV-infected patients should inquire about well-known modifiable cancer risk factors," she said. "For example, the prevalence of cigarette smoking, which is a cause of many types of cancer, is known to be higher among HIV-infected individuals."

Modern drug therapy has led to a longer life for patients with HIV. Because cancer risk increases with age, investigating the risk of cancer among patients with HIV is important. Although some cancers are known to be associated with HIV, such as Kaposi's sarcoma, non-Hodgkin's lymphoma and cervical cancer, limited research has been conducted on risk of non-AIDS cancers.

Shiels and her colleagues analyzed data from 11 U.S. and international studies comparing cancer incidence in individuals with HIV with the general population. Individual studies were excluded if they included data that overlapped with more recent studies. The meta-analysis combined standardized incidence ratios from each study and examined whether they differed by gender and prior AIDS diagnosis.

"We observed an overall elevated risk for all non-AIDS cancers combined among HIV-infected individuals compared with the general population," Shiels said. "The elevated risk appears to be greater among men than women."

Relative to the general population, the incidence of non-AIDS cancer appeared higher for individuals with and without an AIDS diagnosis. When the researchers adjusted the data for gender and study design, the estimates were similar: the risk of non-AIDS cancer was about two times greater than the general population for HIV-infected individuals both with and without AIDS.

When managing patients with HIV, clinicians should be aware of the potential for increased risk of non-AIDS related cancers. It is important for regular

cancer screening to take place and for clinicians to encourage patients to modify factors that could affect cancer risk, such as cigarette use and nutrition.

The meta-analysis did not investigate possible reasons for the increased risk of non-AIDS cancers among patients with HIV. Understanding the link may lead to better management of cancer among patients with HIV and could be a topic for future study.

Lower Socioeconomic Status Decreases Early Detection and Survival Of Colorectal Cancer

Lower socioeconomic status reduced the chance of early stage diagnosis and survival of colorectal cancer in Colorado, according to a study presented at the AACR conference.

Alma Palisoc, a preventive medicine resident physician at the University of Colorado Denver and lead author of the study, and her co-authors from the Colorado School of Public Health and the Colorado Department of Public Health and Environment, used data from 21,212 colorectal cancers reported to the Colorado Central Cancer Registry over a 12-year period. Using information from the 2000 U.S. census on block group socioeconomic characteristics, they then examined differences in early-stage diagnosis and five-year, cause-specific survival by socioeconomic status.

They found early-stage diagnosis was less common for all three socioeconomic groups among those with no health insurance or only Medicaid coverage. They also observed that early-stage diagnosis was less common among those younger than 65 among lower socioeconomic groups.

"In contrast, for those 65 and older, Medicare covers colorectal cancer screening tests and so earlier-stage diagnosis was observed to be similar among the three groups," Palisoc said. For those under the age of 65, there was a 19 percent decrease in five-year survival between the higher and lower groups.

"We concluded that both lack of health insurance and being in a lower socioeconomic strata are important risk factors for later stage colorectal cancers and for poorer survival from colorectal cancer," Palisoc said.

Colorectal cancer incidence rates have declined considerably over the last two decades, due to increased screening, which allows physicians to detect and remove colorectal polyps before forming cancer. "Later detection and, therefore, lower survival of colorectal cancer among those in the low socioeconomic strata were most likely due to barriers in accessing screening tests," Palisoc said.

"These findings can hopefully raise more awareness to the importance of removing barriers to lifesaving health services such as screening tests and treatment for colorectal cancer, " Palisoc said. "We need to identify ways to provide such services in Colorado and across the nation, even for people without health insurance."

Genetic Risk Factors May Tailor Prostate Cancer Screening Approaches

Five genetic risk markers for prostate cancer may allow physicians to adapt screening approaches for men at high-risk, particularly African-American men, according to research presented at the AACR conference.

Men with a family history of prostate cancer and African-American men are particularly susceptible to the disease, with a twofold to sevenfold increased risk. Assessing risk in these populations has been difficult.

"There have been years of effort to try to identify genes and genetic mutations associated with prostate cancer as there are for breast cancer," said Veda Giri, director of the Prostate Cancer Risk Assessment Program at Fox Chase Cancer Center. "Prostate cancer is a more genetically complex disease."

Giri and colleagues studied patients who are part of the center's Prostate Cancer Risk Assessment Program, an early detection program for men with a high prostate cancer risk. More than 700 participants are enrolled; 60 percent are African-American.

The investigators evaluated the clinical characteristics of men at high risk for prostate cancer; those who carry five genetic single nucleotide polymorphisms that have been associated with prostate cancer in recent studies. These genetic changes have mostly been reported in predominantly Caucasian populations and are being studied in African-American men as well.

The men enrolled in PRAP are aged 35 to 69 years and meet one of the following criteria: one first-degree relative with prostate cancer or two second-degree relatives with prostate cancer on the same side of the family. The group also includes African-American men with BRCA 1/2 mutations.

Giri and colleagues compared the Caucasian high-risk men in PRAP with a control group, an all-Caucasian set of men who have no family or personal history of the disease. The men in the control group are at low risk for developing prostate cancer. Analysis revealed that while there was an effect found for increased risk for prostate cancer in Caucasian men at high-risk for several of these markers, none of the results were statistically significant. This could be related to the low sample size used in the

study. When comparing these five genetic markers in high-risk Caucasian men with men already diagnosed with prostate cancer, the distribution of the markers was similar. This might indicate that these markers are clinically useful in Caucasian men at risk for prostate cancer, although further study is needed.

"When we compared African-American men in PRAP to the high-risk Caucasian men in PRAP, we did find a difference," she said. "African-American men tended to carry more of these genetic risk markers compared to the Caucasian men. Since African-American men carry more of these particular genetic markers, they may be more informative for prostate cancer risk assessment in African-American men."

The researchers studied how the markers influence time to prostate cancer diagnosis. "We found a trend that African-American men who carried more of these risk markers tended to develop prostate cancer earlier," Giri said. This finding wasn't statistically significant.

Genetic markers associated with prostate cancer risk need to be characterized in prospective screening populations in order to determine how to incorporate them into risk assessment for prostate cancer, particularly for men at high-risk for the disease, Giri said. "These markers may have significant use in personalizing the early detection of prostate cancer in men at high-risk in order to provide tailored recommendations for screening and diagnosis of this disease," said Giri.

NCI Cooperative Group, Cancer Center Trials Listed

The National Cancer Institute's Cancer Therapy Program approved the following clinical research studies last month. For further information about a study, contact the principal investigator listed.

Phase I

Phase I Study Evaluating the Combination of GW786034 and CCI-779 in Patients with Advanced Solid Tumors. Southwest Oncology Group, protocol S0718, Verschraegen, Claire, phone 505-272-6760.

Phase II

Phase II Study of AT-101 in Recurrent Extensive Stage Small Cell Lung Cancer. Mayo Clinic Rochester, protocol 8027, Maria Quintos , phone 314-362-5737.

Multi-institutional Phase II Study of IMC-A12, a Recombinant Human IgG1/Gamma Monoclonal Antibody Directed at the Type I Insulin-Like Growth Factor Receptor in Adrenocortical Cancer: A Randomized Trial Comparing the Activity of IMC-A12 with Mitotane Versus Mitotane Alone. University of Chicago, protocol 8199, Hammer, Gary, phone 734-615-2421.

Phase II Randomized Study for Patients with Muscle-Invasive Bladder Cancer Evaluating Transurethral Surgery and Concomitant Chemoradiation by Either BID Irradiation Plus 5-Fluorouracil and Cisplatin or QD Irradiation Plus Gemcitabine Followed by Selective Bladder Preservation and Gemcitabine/Cisplatin Adjuvant Chemotherapy. Radiation Therapy Oncology Group, protocol RTOG-0712, Coen, John, phone 617-724-1160.

Phase II Study of Combination of Hyper-CVAD and Dasatinib with or Without Allogeneic Stem Cell Transplant in Patients with Philadelphia Chromosome Positive and/or BCR-ABL Positive Acute Lymphoblastic Leukemia. Southwest Oncology Group, protocol S0805, Ravandi-Kashani, Farhad, phone 713-745-0394.

Phase II Trial of Adjuvant Capecitabine/Gemcitabine Chemotherapy Followed by Concurrent Capecitabine and Radiotherapy in Extrahepatic Cholangiocarcinoma. Southwest Oncology Group, protocol S0809, Ben-Josef, Edgar, phone 734-936-8207.

Phase III

Randomized Phase III Trial of Weekly Nanoparticle Albumin Bound NAB-Paclitaxel or Ixabepilone Combined with Bevacizumab as First-Line Therapy for Locally Recurrent or Metastatic Breast Cancer. Cancer and Leukemia Group B, protocol CALG-40502, Rugo, Hope, phone 415)-353-7428.

Randomized Placebo-Controlled Trial Of Acetyl-L-Carnitine For The Prevention of Taxane Induced Neuropathy Phase III. Southwest Oncology Group, protocol SWOG-S0715, Hershman, Dawn, 212-305-1945.

Other

The Cancer Genome Atlas Utilizing Z0030 NSCLC Patient Samples. American College of Surgeons Oncology Trials Group, protocol ACOSOG-Z4082, Allen, Mark, phone 507-284-2644.

Study of the Docetaxel Pharmacodynamics and Polymorphisms in ABCC2 and SLCO1B3 in Caucasian and African-American Cancer Patients. Cancer and Leukemia Group B, protocol CALGB-60805, Lewis, Lionel, phone 603-650-8685.

Proposed Study of CLL Samples. Eastern Cooperative Oncology Group, protocol E2997T1, Kaplan, David, phone 216-368-1279.