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THE
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Cancer research news for clinicians

Childhood Cancer:

Children's Oncology Group Study Shows Improved Care For Childhood Brain Tumors

The use of chemotherapy alone, without the additional use of cranial radiation, is effective in the treatment of pediatric patients diagnosed with unresectable or progressive low-grade glioma, according to a study presented at the annual meeting of the International Society of Pediatric Oncology in Berlin, Germany.

The multi-institutional study was conducted by the Children's Oncology Group and led by Joann Ater, professor of pediatrics at the Children's Cancer

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Lung Cancer:

NCI Begins Large National Clinical Trial To Validate Biomarker For Lung Cancer

NCI has begun a large national clinical trial for non-small cell lung cancer to validate whether a biomarker can predict clinical benefit in the treatment of this disease.

Biomarkers would identify epidermal growth factor receptor. The study is called MARVEL (Marker Validation for Erlotinib in Lung Cancer) and will attempt to definitively establish the future value of selecting patients for treatment based on the presence or absence of EGFR activation.

About 1,200 lung cancer patients will be tested for the status of this biomarker, and then will be randomly assigned to treatment based on the test results. Both EGFR-positive and EGFR-negative patients will receive either the chemotherapy drugs erlotinib (Tarceva, Genentech) or pemetrexed (Alimta, Eli Lilly) after they have received their initial, standard chemotherapy. Erlotinib specifically targets EGFR, whereas pemetrexed blocks tumor cell growth by another mechanism.

It is hypothesized that erlotinib will be superior in the patients with EGFR-positive lung cancer, whereas pemetrexed would be favored in patients with EGFR-negative lung cancer, based on knowledge from earlier, smaller studies. MARVEL will incorporate genetic studies for erlotinib and pemetrexed that will be important to further identify patients with different sensitivity and toxicity profiles to these therapies.

"Because lung cancer is such a lethal disease and because it is particularly difficult to treat, especially if diagnosed in its later stages, the MARVEL trial is of major importance because it could define, based on a single test, the best therapy for this disease. The future of moving highly targeted agents

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Delay In Radiation May Reduce Long-Term Treatment Effects

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Hospital at The University of Texas M.D. Anderson Cancer Center in Houston.

Ater is principal investigator for the Children's Oncology Group study and developed the phase III trial, which compared two different chemotherapy regimens across three different patient groups. Smaller pilot studies have shown a carboplatin and vincristine (CV) regimen to be effective against low-grade glioma. However, the COG trial with 401 patients enrolled, showed that a thioguanine, procarbazine, lomustine and vincristine (TPCV) regimen was more effective than the CV regimen and resulted in a five-year event-free survival rate of nearly 50 percent.

Patients under 5 years old averaged 2.2 years before the disease progressed on the CV regimen, while patients between 5 to 10 years old, averaged 5.3 years before disease progression. Patients on the TPCV regimen fared better, with those 5 to 10 years old averaging more than eight years without disease progression. The trial also studied chemotherapy for neurofibromatosis patients who had low-grade gliomas. This patient population had the best response to chemotherapy among the three groups.

"If we can delay radiation, then we allow more time for our youngest patients to develop physically, which could decrease some of the long-term effects from treatment," Ater says. "This trial at least gives parents more information and alternative options when making decisions about their child's treatment."

Low-grade glioma is the most common form of brain tumor in children.

Gregory Reaman, chairman of the Children's Oncology Group, said that this significant outcome demonstrates the value of the unique coordinated research work performed by the COG. Located at more 200 leading children's hospitals, university hospitals and cancer centers across North America, the COG includes more than 5,000 dedicated experts in childhood cancer research and treatment.

"Childhood cancer is relatively rare," Reaman said. "Working together, clinical investigators are able improve cure rates at much faster pace than could any one individual or single institution working alone."

The phase III COG trial enrolled more than 400 eligible patients at COG member institutions. Together, COG member institutions treat more than 90 percent of all children in the United States diagnosed with cancer.

Reaman also said another significant development in the management of low grade astrocytoma is to delay or avoid the use of radiation therapy to reduce or eliminate its deleterious side-effects, which will result in improved quality of children's lives.

"Whereas very significant strides have been made in the treatment and cure of childhood cancers such as low-grade glimoas, there is increasing evidence that successful treatment comes with a significant price," he said.

"The aim to reduce exposure to radiation is very important in these children, and a new standard of care may be defined, however, follow-up will be necessary to determine whether the use of additional chemotherapy, particularly procarbazine, is safe as well as effective in the long term."

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Lung Cancer:

NCI Begins Large Study To Validate Cancer Biomarker

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from the lab to the clinic will be heavily dependent on biomarkers for patient selection," said NCI Director John Niederhuber.

Both erlotinib and pemetrexed are approved treatments for advanced non-small cell lung cancer. Among the factors that appear to influence responsiveness to erlotinib, in addition to the level of EGFR activation,

are whether the resulting cancer cells are classified as adenocarcinomas (as opposed to squamous or other types of cells), female gender, Asian ethnicity, and whether the patient was ever a smoker. However, no forward-looking study has been performed to definitively address which factors are most important.

MARVEL, also known as N0723, is a phase III study that will be led by the North Central Cancer Treatment Group. The trial will enroll patients over a four year period and test them for EGFR status. It will randomly assign about 950 of the 1,200 tested patients to the treatment protocol (assuming that 80 percent of the tests will successfully allow classification of patients as either EGFR-positive or EGFR-negative), and, after a minimum of one to two years of follow-up, accrue data on disease-free and overall patient survival rates as well as determine if markers are good predictive and prognostic tools.

It will also establish whether erlotinib provides a meaningful benefit over the patients' initial, standard chemotherapy.

This trial is the outcome of a collaboration formed in 2006, called the Oncology Biomarkers Qualification Initiative between NCI, FDA, and the Centers for Medicare and Medicaid Services. OBQI was designed to qualify biomarkers for use in clinical trials and, ultimately, to speed better agents to cancer patients.

"The MARVEL trial is unique and an important first because it is an outgrowth of specific NCI initiatives designed to advance lung cancer therapies and received broad input from the FDA, NCI cooperative groups, the biomarker industry, and the pharmaceutical industry," said Alex Adjei, senior vice president of Clinical Research at Roswell Park Cancer Institute, and chairman of the study.

Study Examines Lung Cancer Among Lifelong Nonsmokers

A new American Cancer Society study sheds light on the 10 to 15 percent of lung cancers that are caused by factors other than tobacco smoking. The study analyzed data on lung cancer occurrence among lifelong nonsmokers in North America, Europe, and Asia and found that lung cancer death rates among never-smokers are highest among men, African Americans, and Asians residing in Asia.

The review, the largest to date of lifelong nonsmokers, also suggests that the death rates among never-smokers have remained stable over the past several decades.

While the great majority of lung cancers are related to smoking, approximately 16,000 to 24,000 lung cancer deaths each year are due to other factors. For comparison, if lung cancers not caused by smoking were considered a separate category, it would rank among the seven to nine most common fatal cancers in the U.S. The researchers say as the number of never-smokers in the U.S. and other developed countries is increasing, this is a subject of particular interest and importance.

To examine the issue, researchers led by Michael Thun pooled data on lung cancer incidence and death rates among self-reported never-smokers from 13 large cohort studies based in North America, Europe, and Asia that spanned the time period from 1960 to 2004. The pooled data represented hundreds of thousands of individuals (over 630,000 for the incidence data and 1.8 million for the mortality data). The researchers also abstracted data for women from 22 cancer registries in 10 countries in time periods and regions where the smoking prevalence among women was known to be low.

The study appeared in the September issue of PLoS Medicine, a peer-reviewed, open-access journal published by the Public Library of Science.

The researchers found that the incidence of lung cancer among lifelong nonsmokers was about equal to that of brain and other nervous system cancers. In terms of mortality, men who reported never smoking had a 1.1% risk of dying from lung cancer before age 85, with the corresponding estimate for women slightly lower at 0.8%. These mortality risks compare to estimates of 22.1% and 11.9% risk of dying from lung cancer for male and female current cigarette smokers, respectively.

While they lacked information on lung cancer death rates among Hispanic, Native American, and Asian never-smokers in North America, researchers did find evidence that lung cancer incidence and mortality are higher in African Americans and Asians residing in Asia than among those of European descent who have never smoked.

The report also found no indication that lung cancer rates have changed among lifelong nonsmokers in the U.S. since the 1930s, failing to support assertions by other researchers that lung cancer risk has increased substantially in the U.S. in lifelong nonsmokers. Still, they point out the importance of the disease among non-smokers. "Lung cancer is obviously a significant public health and medical problem, even beyond the overwhelming disease burden caused by tobacco smoking," the researchers conclude.

Kidney Cancer:

Aggressive, Tailored Therapy Improves Survival, Study Finds

A study of nearly 1,500 patients treated for kidney cancer at UCLA in the last 15 years shows that an aggressive, tailored treatment approach results in better survival rates and uncovered subsets of kidney cancer that behave differently and need to be treated accordingly.

The one-size-fits-all approach traditionally used in kidney cancer treatment should be changed based on the results of the study, the longest to date to analyze kidney cancer patients and their outcomes, said Arie Belldegrun, senior author of the study, a professor of urology and a researcher at UCLA's Jonsson Comprehensive Cancer Center.

"This is the most important work that we've done out of the kidney cancer program at UCLA," Belldegrun said. "We outline the foundation for personalized kidney cancer therapy. We have shown that not all kidney cancer patients are the same, not all localized kidney cancers are the same and not all metastatic kidney cancers are the same."

The study appears in the Nov. 1 issue of Cancer, the peer-reviewed journal of the American Cancer Society.

The study found that patients with localized kidney cancer, cancer that has not spread to other organs, could have either low, intermediate or high risk cancers based on the chance for recurrence. Patients with cancers that have already spread also fell into similarly different subsets. Some have better outcomes while others may have very aggressive cancers that may not warrant treatment.

"We showed for the first time, using an integrated staging system developed at UCLA, that we can identify which patients with localized disease fall into the low, intermediate and high risk subsets and which patients with metastasized cancers are either low, intermediate or high risk patients," Belldegrun said. "Now we can make treatment decisions based on that."

If a patient with localized cancer is identified as low risk, his five-year survival rate is expected to be 97 percent, while his 10-year survival rate is 92 percent. An intermediate risk patient with localized disease would have a five-year survival rate of 81 percent and a 10-year survival rate of 61 percent. A high risk patient has a five-year survival rate of 62 percent, with a 10-year survival of 41 percent.

"All of these patients with cancers that have not spread present to their doctors with presumably localized disease and in the past they may have been treated the same way," Belldegrun said. "They need to be treated individually according to their risk levels."

The study showed that a patient with low-risk, localized kidney cancer could be treated only with surgery and expect an excellent outcome. Such a move would spare the patient from having to undergo radiation or immunotherapy, which result in harsh side effects. However, for a patient with high-risk, localized kidney cancer, surgery would not be enough. Additional therapy such as targeted treatments or immunotherapy should be considered in order to give the patient the best possible outcome.

In metastatic patients, someone with low-risk cancer should get very aggressive treatment, Belldegrun said, because there's a good chance the therapy will help the patient. Those with high-risk, metastatic disease won't get much, if any, benefit from treatment and may want to forego surgery and the toxic therapies.

"Our paper identifies, very precisely, which patients should get which therapies," Belldegrun said.

The study represents 15 years of experience in UCLA's kidney cancer program, an interdisciplinary approach to treating cancer that brings together medical oncologists, urologists, surgeons, clinical trials experts and scientists under one roof. The study analyzed the first 1,492 patients treated in the program and "demonstrated that outstanding results can be achieved using this approach," Belldegrun said.

About 25 percent of the patients with metastatic kidney cancer achieved long-term responses—five to 15 year survival—from their therapy, Belldegrun said. Less than 5 percent of metastatic kidney cancer patient typically achieve long term survival or a cure when treated with conventional treatments.

"This is by far the best survival data in such a difficult group of patients," Belldegrun said. "This can be achieved today only in kidney cancer centers of excellence like we are operating at UCLA, where we have all the expertise at hand, the best scientists, clinicians and surgeons working together."

The results of the study come as new targeted therapies are being introduced specifically for kidney cancer. The U.S. Food & Drug Administration has recently approved three such drugs. Belldegrun said the survival rates detailed in their paper should be used as a benchmark to which these new therapies should be compared.

"While the field of kidney cancer is undergoing dramatic changes it is as yet still unclear how these

changes are affecting patient outcome," the study states. "A critical assessment of the potential improvement in the new treatment era necessitates a comparison to a known benchmark. We present long-term, single institution data to provide a thorough understanding of the results that have been achieved until now using a consistent, aggressive approach for localized and metastatic disease. For future patient care, it will be important to select patients that will do best using existing therapies, and those who should be treated using the newly approved treatments."

Breast Cancer:

Tamoxifen Makes ER-Negative Breast Cancer Easier To Find

The drug tamoxifen does not prevent or treat estrogen receptor negative breast cancer, but it can make the disease easier to find, researchers report in the Oct. 1 Journal of the National Cancer Institute.

Women at high-risk for breast cancer who took tamoxifen as a preventive measure in a clinical trial and later developed ER-negative breast cancer had a median time to first diagnosis of 24 months, compared with 36 months for those who received placebo, according to a retrospective statistical analysis.

While long-term survival has not yet been observed for the trial, that one-year advanced diagnosis is an unexpected and significant finding, said study lead author Yu Shen, professor in the University of Texas M. D. Anderson Cancer Center's Department of Biostatistics. "Based on our basic understanding of breast cancer, survival rate is higher when cancer is detected at an earlier stage. Our findings open up a new area of research."

"It's a good example of how innovative application of statistical analysis can make a great contribution to better understanding the biological mechanisms of cancer," Shen said.

Tamoxifen is an anti-hormonal therapy known to be effective against ER-positive breast cancer, which is driven by the hormone estrogen. In the Breast Cancer Prevention Trial, conducted at 300 centers, 13,388 women at high risk for breast cancer were randomized to either tamoxifen or placebo. Of those, 174 were diagnosed with ER-positive tumors and 69 with ER-negative tumors. This study found that the drug reduces the incidence of ER-positive breast cancer.

Shen and colleagues requested access to the trial data to illustrate a new statistical methodology and examine tamoxifen's effect on time to diagnosis of disease, which was not determined in the original trial. The more flexible statistical model allowed the team to separately estimate time to diagnosis among diseased cases and the incidence of disease among study participants in both the placebo and tamoxifen arms of the study.

They found that taking tamoxifen made no difference in the time to diagnosis of ER-positive breast cancer and reduced the incidence of ER-positive cancer. Tamoxifen had no effect on the incidence of ER-negative disease, while reducing the median time to diagnosis of ER-negative disease by a year.

The researchers discovered a few hints as to why tamoxifen treatment might make ER-negative cancers more detectable, but Shen cautions that pinpointing the biological factors behind the finding will require additional research. "As statisticians, we uncover the phenomenon, but we cannot explain why it happened," she said.

Other research has indicated that ER-negative breast cancer is less likely to be detected by mammography. In this study, mammography detected 77.4 percent of ER-negative tumors in the placebo group, compared with 94.7 percent in the tamoxifen group, however this finding fell short of statistical significance.

Taking tamoxifen alters breast density, which appears to be a major factor in the sensitivity of mammography screening, the authors note. By altering the density of normal tissue, tamoxifen may modify the contrast between normal tissue and tumors, which might increase the ability of mammography to detect disease. The BCPT trial did not collect breast density data, so this risk factor could not be evaluated.

Blacks Less Likely To Receive Standard Radiation Therapy

Black women are less likely than white women to receive radiation therapy after a lumpectomy, the standard of care for early stage breast cancer, according to a study by researchers at The University of Texas M. D. Anderson Cancer Center.

The study, the largest of its kind, was presented at the American Society of Clinical Oncology Breast Cancer Symposium, and is the first national study to examine such racial disparities in radiation therapy. Led by Grace Li Smith, a postdoctoral fellow in M. D. Anderson's Department of Radiation Oncology, the researchers reviewed the Medicare records of more than 37,000 patients diagnosed with early stage breast cancer in 2003.

"Although there have been smaller studies of racial disparities in breast cancer care, no prior research has examined the differences across the nation in the rates of radiation therapy after lumpectomy between whites and blacks," said Smith, the study's first author. "The national Medicare database, because it's so comprehensive, allowed us to determine the extent to which racial disparities in radiation therapy affected patients across the country."

For the retrospective cohort study, Smith and her colleagues used Medicare claims to examine the treatment history of women aged 66 and older diagnosed in 2003 with early stage, newly diagnosed breast cancer. Of the 37,305 women who underwent a lumpectomy for their breast cancer, 34,024 were white and 2,305 were black. Overall, 74 percent of the white women received radiation therapy after their lumpectomy; in contrast, 65 percent of the black breast cancer patients received the same treatment.

"The use of radiation after lumpectomy is considered to be the standard of care for women with invasive breast cancer, as clinical trials have demonstrated that it both reduces the chance of recurrence and improves the chance of survival," said Thomas Buchholz, professor in the Department of Radiation Oncology and the study's senior author. "While there are some breast cancer patients, such as those over age 70, with significant co-morbidities for whom radiation would not be appropriate, this discrepancy remained consistent when specifically looking at patients under the age of 70."

Perhaps the most unexpected aspect of the study, said Smith, was the magnitude of the disparity in specific areas of the country: the Pacific West, 72 (whites) vs. 55 percent (blacks); East South Central, 72 (whites) vs. 57 percent (blacks), and the Northeast, 70 (whites) vs. 58 percent (blacks).

However, in some parts of the country—the Mountain West (76 percent vs. 74 percent) and the North Central Midwest (74 percent vs. 72 percent)—there was virtually no discrepancy in radiation rates between whites and blacks. That level of geographic non-disparity was also surprising and of great benefit for further research, said Smith.

"Until further research is conducted, we may only speculate about the underlying reasons why black and white women are not receiving radiation at the same rate. We don't know if fewer black women are receiving radiation simply because it is not offered to them, because they decline the treatment, or perhaps because they are unable to complete a whole course of treatment due to other health problems. These questions will be important subjects of future study. As a medical community, we need to identify and eliminate any obstacle prohibiting all women from receiving necessary care for their breast cancer."

Smith's plans for follow up research include evaluating the difference in radiation rates results in a difference in mortality. She also plans to investigate whether radiation patterns correlate with other illnesses secondary to breast cancer care, and if there are disparities in other types of cancer treatment.

Smith hopes that results from the study may prompt physicians and patients to work together to overcome some of the barriers to treatment.

"Physicians may be able to help patients identify specific barriers to their care and may be able to be influential in helping patients overcome such obstacles," said Smith. "Or, if there are concerns or misconceptions about radiation treatment, patients themselves may play a role by becoming educated about the value of radiation after lumpectomy and helping to disseminate this information into their communities."

Clinical Trials:

Low Percentage Of Trials Published In Medical Journals

Less than 20 percent of registered clinical trials of cancer treatment are eventually published in medical journals, according to a study published online by the journal The Oncologist.

Scott Ramsey and John Scoggins of University of Washington and Fred Hutchinson Cancer Research Center searched the NIH ClinicalTrials.gov registry to identify 2,028 registered research studies of cancer treatment. Major medical journals now require that all studies considered for publication be registered in a publicly accessible database like ClinicalTrials.gov.

A subsequent search of the National Library of Medicine's PubMed database showed that just 17.6 percent of the trials were eventually published in peer-reviewed medical journals.

"We find that less than 1 in 5 completed trials registered since the inception of ClinicalTrials.gov are listed in the registry or PubMed as published manuscripts," Ramsey and Scoggins wrote.

The publication rate was particularly low for "industry-sponsored" studies, such as those funded by pharmaceutical companies—just 5.9 percent, compared to 59 percent for studies sponsored by collaborative research networks.

Of published studies, nearly two-thirds had "positive" results—the study treatment worked as hoped. The remaining one-third had "negative" results—the outcome was disappointing or did not merit further consideration of the tested treatment.

This finding raises concern about publication bias in cancer treatment trials. The researchers suspect that the rate of negative results is much higher in the studies that have gone unpublished. "It is likely that many unpublished studies contain important information that could influence future research and present practice policy," the authors wrote.

There are several reasons why registered trials may not be published. Some trials may fail to meet recruitment or follow-up goals. If the trial is completed and the results are negative, researchers may feel that negative studies do little to advance scientific understanding, or to enhance their professional reputation. Sponsors may not encourage researchers to publish negative results. For their part, medical journal editors may be less enthusiastic about negative studies.

However, publication of negative studies is important to avoid repeating negative trials, and for what can be learned from the lack of response. "Unpublished trials may have special importance in oncology, due to the toxicity and/or expense of many therapies," the researchers wrote. The fact that so much cancer research goes unpublished raises concerns about the completeness of available information on present and future cancer treatments.

A pair of accompanying editorials comment on the underpublication of cancer treatment studies, and suggest some approaches to addressing the problem. James Doroshow, director of the NCI Division of Cancer Treatment and Diagnosis, writes about efforts to develop a database of administrative and outcomes data for all studies performed at NCI-supported institutions.

Gregory Curt and Bruce Chabner, senior editor and editor-in-chief of The Oncologist, echo the call for increased NCI involvement in ensuring publication of funded studies.

Meanwhile, the editors of The Oncologist are considering publication of a new, peer-reviewed, fully searchable venue for cancer treatment studies that would otherwise go unpublished. "There is a need for a new venue for publishing all well-executed trials that fail to meet positive endpoints: 'negative' in a sense, but valuable nonetheless," Curt comments.

The Ramsey and Scoggins article is available at http://www.theoncologist.com/cgi/reprint/theoncologist.2008-0133v1.

FDA Approvals:

Ontak Approved For Lymphoma

FDA approved an efficacy supplemental biologics license application for Ontak (denileukin diftitox, Eisai Corp.) solution for intravenous injection for the treatment of patients with persistent or recurrent cutaneous T-cell lymphoma whose malignant cells express the CD25 component of the interleukin-2 receptor (CD25+).

A separate efficacy supplement that included data from patients with CTCL whose malignant cells did not test positive for the CD25 component of the IL-2 receptor received a complete response letter.

The FDA's action, following a priority review, marks the conversion of an accelerated approval indication to full approval and is based on data from a phase III clinical trial that evaluated the overall efficacy and safety of Ontak in certain patients with CTCL.

The study met its primary endpoint of overall response rate. ORR is the sum of complete and partial responses seen in a study, divided by the number of evaluable patients. The ORR was 46% for the 18 mcg/kg/day dose of ONTAK (p=0.002 vs. placebo) and 37% for the 9 mcg/kg/day dose (p=0.03 vs. placebo) vs. 15% for placebo.

Analysis of a secondary endpoint, progression-free survival, suggested a 73% reduction in risk of disease progression in the 18 mcg/kg/day group (hazard ratio=0.27, p= 0.0002, 95% CI 0.14, 0.54) and a 58% reduction in risk of disease progression in the 9 mcg/kg/day group (hazard ratio=0.42, p=0.02, 95% CI 0.20, 0.86) compared to placebo.

Treanda Approved For B-Cell Non-Hodgkin's Lymphoma

FDA approved Treanda (bendamustine hydrochloride, Cephalon Inc.) for Injection for the treatment of patients with indolent B-cell non-Hodgkin's lymphoma that has progressed during or within six months of treatment with rituximab or a rituximab-containing regimen.

The data supporting the FDA approval show that Treanda is effective, has a tolerable side effect profile in patients with indolent NHL and that treatment results in a high durable response rate. Last March, Treanda received approval for the treatment of patients with chronic lymphocytic leukemia, the most common form of leukemia in the U.S.

Indolent NHL, a subset of non-Hodgkin's lymphoma, is a slow growing cancer of the lymphatic system that is not curable with currently available

treatments. Patients with indolent NHL are prone to multiple relapses after initial therapy.

The FDA approval is supported by a pivotal trial of 100 patients with indolent B-cell NHL who had progressed during or within six months of treatment with a regimen that included rituximab. The pivotal study demonstrated that patients had a high response rate to treatment with Treanda, and these responses to the treatment were durable. The results from the pivotal study showed that treatment with Treanda as a single agent resulted in an overall response rate of 74 percent, which means that after treatment, the cancer diminished or disappeared in approximately three out of four patients. Patient response to treatment in the pivotal study lasted a median of 9.2 months and patients remained alive and their disease did not progress for a median of 9.3 months.

The safety of Treanda is also supported by a secondary monotherapy study. In the pivotal and secondary studies for Treanda in indolent NHL, the most common non-hematologic adverse reactions (frequency > 15%) are nausea, fatigue, vomiting, diarrhea, pyrexia, constipation, anorexia, cough, headache, weight decrease, dyspnea, rash and stomatitis. The most common hematologic abnormalities (frequency >15%) are lymphopenia, leukopenia, anemia, thrombocytopenia and neutropenia.

Treanda's ntravenous infusion takes 60 minutes and can be administered in an outpatient setting, reducing the time it takes for patients to be treated. The recommended dose for indolent NHL is 120 mg/m2 administered on days one and two of a 21-day cycle, for up to eight cycles.

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/II

Phase I/II Trial of Temozolomide and ABT-888 in Subjects with Newly Diagnosed Glioblastoma Multiforme. New Approaches to Brian Tumor Therapy Consortium, protocol NABTT-0801, Kleinberg, Lawrence, phone 410-614-2597.

Phase II

Randomized Phase II Study with a Safety Lead-in of the Anti-IGF-1R Monoclonal Antibody IMC-A12 in Combination with Erlotinib Compared with Erlotinib Alone in Patients with Advanced Non-Small Cell Lung Cancer Who Have Failed at Least One Platinum-Containing Chemotherapy Regimen. University of Colorado at Denver Health Sciences Center, protocol 8148, Camidge, David, phone 720-848-0449.

Randomized, Phase II Trial of Brief Androgen-Ablation Combined with Cell-Based CG1940/CG8711 Immunotherapy for Prostate Cancer in Patients with Non-Metastatic, Biochemically Relapsed Prostate Cancer. Eastern Cooperative Oncology Group, protocol E3806, Drake, Charles, phone 410-502-7523.

Phase II Study of Iodine-131-Labeled Tositumomab in Combination with Cyclophosphamide, Doxorubicin, Vincristine, Prednisone and Rituximab Therapy for Patients with Advanced Stage Follicular Non-Hodgkin's Lymphoma. Southwest Oncology Group, protocol S0801, Friedberg, Jonathan, phone 585-273-4150.

Phase III Randomized, Double-Blind, Placebo Controlled Trial of North American Ginseng Extract (CVT-E002; COLD-fX) to Prevent Respiratory Infection and Reduce Antibiotic Use in Patients with Chronic Lymphocytic Leukemia. Wake Forest University Health Sciences, protocol WFU-07-02-03, High, Kevin, phone 336-713-5407.

Phase III

Randomized Phase III Trial of Paclitaxel Combined with Trastuzumab, Lapatinib, or Both as Neoadjuvant Treatment of Her2-Positive Primary Breast Cancer. Cancer and Leukemia Group B, protocol CALGB-40601, Carey, Lisa, phone 919-966-4431.

Other

Prognostic Value of p53 and/or p16 Alterations in Ewing Sarcoma. Children's Oncology Group, protocol AEWS08B1, Lessnick, Stephen, phone 801-585-9268.

Neuropsychological, Social, Emotional, and Behavioral Outcomes in Children with Cancer. Children's Oncology Group, protocol ALTE07C1, Segovia, Leanne , phone 210-704-2987.

Pilot Project to Study the Expression of c_MET and p53 in Resected Lung Adenocarcinoma Specimens. Cancer and Leukemia Group B, protocol CALGB-150607, Group Salgia, phone 773-702-4399.

Long-Term Bone Quality in Women with Breast Cancer (A Companion Study to S0307). Southwest Oncology Group, protocol S0307A, Hershman, Dawn, phone 212-305-1945.