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THE
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Cancer research news for clinicians

Breast Cancer

Trastuzumab Showed Improved Survival In Stage IV Breast Cancer with CNS Metastases

Trastuzumab (Herceptin), used with chemotherapy and surgery, significantly improved survival in women with HER2-positive stage IV breast cancer and central nervous system metastases, according to a study.

"It is surprising that chemotherapy and trastuzumab adds to these women's survival," said lead author Adam Brufsky, of the University of Pittsburgh Cancer Institute. "We thought that the brain metastases would be dominant in this regard no matter what therapy."

The paper was based on new analyis of data from RegistHER, "A Study of Patients with HER2-Positive Metastatic Breast Cancer," a Genetech-sponsored study conducted between 2003 and 2006. This prospective, observational study enrolled 1,023 newly diagnosed HER2-positive metastatic breast cancer patients.

In the study, published in Clinical Cancer Research, researchers compared baseline characteristics of patients with and without nervous system

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Bladder Cancer

Majority of Invasive Bladder Cancer Patients Do Not Receive Full Recommended Care

The overwhelming majority of patients with high-grade, non-muscle, invasive bladder cancer do not receive the recommended treatment and surveillance, according to a study released by UCLA's Jonsson Comprehensive Cancer Center.

The study examined the records of more than 4,500 bladder cancer patients.

Out of those 4,500 patients, only one received treatment that met all of the recommended guidelines for care as issued by the American Urological Association and National Comprehensive Cancer Network.

"We found that the greatest cause of this lack of compliance is the doctors," said Badrinath Konety, a co-author of the study and member of the Bladder Cancer Advocacy Network Scientific Advisory Board. "Providers are failing to offer their bladder cancer patients the care that is proven to reduce mortality."

Bernard Bochner, a urologic surgeon at Memorial-Sloan Kettering and also a member of the network's advisory board, said that in some cases the treatment guidelines are seen as controversial, and that doctors may not be familiar with the current standards and guidelines of care.

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Breast Cancer

Trastuzumab Improved Survival In Stage IV with CNS Metastases

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metastases; assessed incidence and time to development of those metastases; and evaluated treatment after metastases and survival outcomes.

Of the 1,012 patients who had confirmed HER2-positive tumors, 37.3 percent had nervous system metastases. Those with metastases were younger and more likely to have hormone receptor–negative disease and higher disease burden.

Three-hundred and two patients (29.8 percent) had no nervous system disease at initial diagnosis, but developed metastases on-study. Their median time to progression was 13.3 months.

Treatment with trastuzumab, chemotherapy or surgery after nervous system diagnosis was each associated with a statistically significant improvement in median overall survival: 17.5 months with trastuzumab vs. 3.8 months without trastuzumab; 16.4 months with chemotherapy vs. 3.7 months without chemotherapy; and 20.3 months with surgery vs. 11.3 months without surgery.

"Women with HER2-positive breast cancer have a reasonable chance of living a long time with their disease, and they should be given aggressive therapy where appropriate," Brufsky said. "We clearly now know that these women should get trastuzumab and potentially chemotherapy, even if cancer spreads to the brain."

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Pertuzumab Delays Progression In HER2-Positive Breast Cancer

Pertuzumab (Omnitarg), in combination with trastuzumab (Herceptin) and docetaxel chemotherapy, significantly improved progression-free survival in patients with HER2-positive metastatic breast cancer.

Genetech said that data from their phase III trial CLEOPATRA, "Clinical Evaluation of Pertuzumab and Trastuzamab," suggested a significant improvement in progression-free survival, and that the trial had reached its primary endpoint. Full results and analysis are forthcoming.

"We plan to submit the study results for global regulatory approval this year," said Hal Barron, chief medical officer and head of Global Product Development at Genetech.

CLEOPATRA was a randomized, double-blind, placebo-controlled clinical study, enrolling 808 patients with previously untreated HER2-positive metatstatic breast cancer.

Participants in the pertuzumab arm received docetaxel, trastuzamab, and pertuzumab. Participants in the comparator arm received docetaxel and trastuzamab alone.

No new safety signals were observed and adverse events were consistent with those seen in previous studies of pertuzumab and trastuzamab, either in combination or alone.

"Results with pertuzumab combined with Herceptin and docetaxel are very encouraging and represent our commitment to developing potential new personalized options for people with this aggressive disease," Barron said.

The company said that full data from CLEOPATRA will be submitted for presentation at an upcoming medical meeting.

Sentinel Lymph Node Excision Has No Impact on Survival

Lymph node excision due to occult cancer cells in the lymph nodes closest to the tumor has no impact on survival outcomes in women with early-stage breast cancer, according to a new study.

The study, published in the Journal of the American Medical Association and conducted by the American College of Surgeons Oncology Group, sought to determine whether there is an association between patient survival rates and the presence of cancer cells

that have spread from an early-stage tumor to nearby lymph nodes.

The trial enrolled 5,210 breast cancer patients at 126 sites. All participants underwent breast-conserving surgery and sentinel lymph node dissection.

Since occult metastases cannot usually be seen in routine pathological or clinical examination, the cells were detected with immunochemical staining of sentinel lymph nodes and bone marrow specimens from patients with early-stage breast cancer.

Results showed that survival outcomes were no different between women undergoing total lymph node removal and those only having the sentinel lymph node removed.

"The presence of tiny sentinel lymph node metastases has no bearing on survival outcomes," said principal investigator Armando Giuliano, executive vice chair of surgery for surgical oncology at Cedars-Sinai's Samuel Oschin Comprehensive Cancer Institute.

In previous years, it was believed that removing all lymph nodes—not just the sentinel nodes closest to the tumors—improved survival rates. However, removing lymph nodes can cause complications such as lymphedema—a chronic, painful and potentially debilitating swelling in the arm.

Increased Breast Density Can Lead to Higher Risk

Women with increased mammographic breast density are at a higher risk of breast cancer and their tumors are more likely to have certain aggressive characteristics than women with less dense breasts, according to a new study.

Breast density is a well-established risk factor for breast cancer—women with higher amounts of epithelial and stromal tissue have higher density and higher risk. However, it has not been clear whether breast density was associated with specific tumor characteristics or tumor type.

The study, led by Rulla Tamimi of Harvard Medical School and Brigham and Women's Hospital, compared breast density in 1,042 postmenopausal women with breast cancer and 1,794 matched control subjects—women who were similar in terms of age, postmenopausal hormone use and other factors, but did not have breast cancer.

Researchers found that higher mammographic density was associated with more aggressive tumor characteristics—namely, larger, high-grade tumors, and estrogen receptor-negative as opposed to estrogen receptor-positive. Increased density was also more closely associated with ductal carcinoma in situ than with invasive tumors.

There was no association between density and other markers of tumor aggressiveness, such as nodal involvement and HER2 status.

"Our results suggest that breast density influences the risk of breast cancer subtypes by potentially different mechanisms," the authors wrote. "Further studies are warranted to explain underlying biological processes and elucidate the possible pathways from high breast density to the specific subtypes of breast carcinoma."

The study was published in JNCI. An accompanying editorial, Karla Kerlikowske of University of California, San Francisco, and Amanda Phipps, of Fred Hutchinson Cancer Research Center, wrote that this study was the first to find a stronger association between breast density and ER-negative tumors than ER-positive tumors.

However, this stronger association might be due in part to the "masking effect."

"Masking of a tumor can occur because cancerous tissue and mammographically dense tissue have similar X-ray attenuation, allowing tumors to go undetected on screening mammography examination and progress to a more advanced and aggressive stage before detection," Kerlikowske and Phipps wrote.

In this study, it is not known whether the tumors were detected by screening mammography.

The editorialists also discussed other possible explanations for the strong link between density and aggressive tumors, including the interaction of increased numbers of stromal and epithelial cells in dense breasts and exposure to postmenopausal hormones.

They conclude that breast density is an important risk factor for diverse subtypes of breast cancer.

"Given that the magnitude of the association with breast density is strong across all breast cancer subtypes and particularly for ER-negative disease, breast density should be included in risk prediction models across tumor subtypes," they wrote.

Mammography

Computer Interpretation Software Does Not Improve Detection

Computer-aided detection software does not improve accuracy when used to analyze and interpret mammograms, according to a new study.

CAD software, currently used for analyzing three out of four mammograms in the U.S., identifies patterns associated with breast cancers and marks potential abnormalities for the radiologist to consider before making a final recommendation.

The study, led by Joshua Fenton, of University of California, Davis, analyzed data from more than 1.6 million film screening mammograms carried out at facilities in seven states. The facilities participate in the Breast Cancer Surveillance Consortium, a federally supported network.

Out of 90 facilities, 25 adopted CAD and used it for an average of 27.5 months during the study period. Fenton and colleagues collected information on women who had mammograms with and without CAD, including whether they were diagnosed with breast cancer within a year of the screening.

Researchers found that CAD was associated with more false positives and did not improve detection of invasive cancers. Moreover, the cancers detected using CAD were no more likely to be smaller or at a lower stage or to have less lymph node involvement than those detected without CAD.

The results were the same after adjusting for patient age, breast density, use of hormone replacement therapy, and other factors that might influence mammography findings.

"CAD appears to increase a woman's risk of being recalled for further testing after screening mammography while yielding equivocal health benefit.," the authors wrote, The study was published in JNCI.

In an accompanying editorial, Donald Berry, of MD Anderson Cancer Center, said that any benefit to CAD probably so small that it would be difficult to detect even in a very large randomized study. Moreover, improving the sensitivity of CAD might find less aggressive tumors or those that would otherwise show up between mammograms.

Early detection of such tumors, Berry wrote, is not likely to have much of an impact on breast cancer mortality. He said that researchers should work to make CAD software more useful, but that "this should happen in an experimental setting and not while exposing millions of women to a technology that may be more harmful than it is beneficial."

Bladder Cancer

Majority of High-Grade Patients Do Not Receive Full Care

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Bochner is currently leading a BCAN-sponsored group that studies physicians as they treat patients with advanced bladder cancer. His group will first determine whether doctors are complying with key treatment guidelines, and when the recommended treatment is not provided, they will identify the reasons.

Data gathered by Bochner and colleagues will complement the UCLA study, which found that physicians were not complying with care guidelines in early stage bladder cancer, but did not identify the reasons for lack of compliance.

"Ultimately, we hope Dr. Bochner and his colleagues will be able to determine why many doctors do not comply with current guidelines, and what can be done to remove the obstacles and ensure that doctors give all patients the appropriate care," said Gary Steinberg, chair of the network's advisory board and chief of urologic oncology at University of Chicago.

Leukemia

Bone Marrow Transplant Survival Has Doubled In Young Patients

Bone marrow transplant survival more than doubled in recent years among young, high-risk leukemia patients treated at St. Jude Children's Research Hospital.

Records indicate that patients who lacked genetically matched donors showed the most significant gains.

The study compared survival outcomes for transplant patients with high-risk acute lymphoblastic leukemia treated between 2000 and 2007, versus high-risk patients who received transplants between 1991 and 1999.

The 37 patients treated after 2000 showed a five-year survival rate of 65 percent, while the 57 patients treated prior showed a five-year survival rate of 28 percent.

The study also compared acute myeloid leukemia survival between 2002 and 2008 against survival rates between 1997 and 2002.

The 46 AML patients receiving transplants after 2002 demonstrated a five-year survival rate of 74 percent, while the 50 patients treated prior to 2002 had

a five-year survival rate of 34 percent.

"This study shows that transplantation offers real hope of survival to patients with high-risk leukemia that is not curable with intensive chemotherapy," said principal investigator Wing Leung, director of Bone Marrow Transplantation and Cellular Therapy at St. Jude.

During the same periods, there was an eight-fold reduction in infections, a four-fold drop in treatment-related toxicity, and a 2.5-fold decrease in leukemia-related deaths.

According to Leung, the survival gains demonstrated in the study were linked to advances in cancer treatment, as well as improved infection control and more sophisticated donor selection.

"Our transplanted patients not only have high cure rates but also excellent quality of life, resulting largely from advances in chemotherapy, donor selection and supportive care," said senior author Ching-Hon Pui, chair of St. Jude's Department of Oncology.

The study included three types of donors: genetically matched related donors; genetically matched unrelated donors; and partially genetically matched (haploidentical) donors.

The study's largest survival gains involved patients whose blood and immune systems were rebuilt with cells from haploidentical donors. Survival for these patients increased from 12 percent in earlier ALL and AML treatment eras to 88 percent in the most recent treatment era.

Historically, transplant patients fared best and suffered fewer complications when the donors were relatives who carried the same six HLA proteins on their white blood cells. These proteins serve as markers that help the immune system distinguish between an individual's healthy tissue and diseased cells.

Careful testing and HLA screening of potential donors identifies the one whose immune system is likely to mount the most aggressive attack against remaining leukemia cells using specialized immune cells known as natural killer cells.

According to Leung, the odds of finding a good haploidentical donor are 70 to 80 percent, compared to about a 25 percent chance of having a matched sibling donor. The likelihood of finding a genetically identical, unrelated donor ranges from about 60 to 90 percent depending on the patient's race or ethnicity.

"We can now identify donors for virtually all pediatric patients who need transplant to cure their leukemia," Pui said.

The study was published in the journal Blood.

Two Studies Demonstrate Molecule Blocking Cell Damage

Mixed lineage leukemias rely on structural changes in DNA to cause internal damage to white blood cells, and a small molecule known as EPZ004777 inhibits the enzymes responsible for these changes, according to two new studies.

MLL gene rearrangements account for approximately 10 percent of acute lymphoblastic or myeloid leukemias, and most MLL leukemia patients do not respond well to standard treatments.

"The success rates for treating other childhood leukemias has reached 80 or 90 percent," said Scott Armstrong, a pediatric oncologist at Children's Hospital Boston and Dana-Farber Cancer Institute. "However, we still only achieve about 50 percent success in treating MLL-rearranged leukemias."

In these cancers, a portion of chromosome 11 breaks off and fuses with parts of other chromosomes, creating new fusion proteins. The fusion proteins subvert the normal function of the MLL gene and activate a set of leukemia-causing genes.

"We have known for a while that MLL leukemias arise from widespread alterations not in the genetic code itself, but in the structure of the DNA and the proteins associated with it," said Armstrong.

"We now show that these epigenetic changes indeed turn on cancer-promoting genes within white blood cells, and ultimately cause the leukemia; even more importantly, we show that we can reverse the process."

The first study—led by Armstrong, Kathrin Bernt, of Children's Hospital Boston, and Andrew Kung, of Dana-Farber Cancer Institute—showed that MLL-leukemias can be treated by inhibiting an enzyme called Dot1l.

Previous research had demonstrated that MLL-rearranged leukemia cells have a unique pattern of histone methylation. Dot1l, which is recruited to cancer-promoting genes by the MLL-fusion protein, attaches a methyl group to a particular amino acid (histone-H3) on a histone, a scaffolding protein that helps manage gene activation.

The study first confirmed that genes targeted by MLL-AF9, a MLL fusion protein, are associated with inappropriately methylated histone H3 proteins. Then, using a mouse model of the disease, researchers were able to eliminate the MLL-specific histone methylation and gene expression patterns in cells by genetically deactivating Dot1l.

"Our previous work suggested that Dot1l was the culprit behind the abnormal methylation patterns in MLL-rearranged cells," Armstrong said. "We now know that these leukemias fully rely on this enzyme and the methylation pattern it generates in order to persist and grow."

Furthermore, Armstrong and colleagues found that mice injected with leukemia cells lacking Dot1l did not develop leukemia, in contrast to those injected with leukemia cells possessing active Dot1l.

"While methylation tags on histones are very difficult to manipulate directly," Armstrong said, "Dot1l is much easier to target therapeutically."

The second study—co-authored by Armstrong, Bernt, Kung and collaborators at the biotechnology company Epizyme—showed that EPZ004777, a small molecule called that inhibits Dot1l, eliminates the abnormal methylation pattern in MLL cells.

In cell-based laboratory models, treatment with EPZ004777 showed similar effects to Dot1l-deactivation in genetically engineered mice, while selectively causing MLL-rearranged leukemia cells to die off in about two weeks. Moreover, mice with MLL-rearranged leukemia showed increased survival when treated with EPZ004777.

"The oncology field is very excited about epigenetic inhibition right now," Armstrong said. "Enzymes like Dot1l that influence epigenetics are overactive in many cancers. What we've done is show that we can block one of these enzymes and get very specific anti-tumor activity in a previously very hard-to-treat disease."

Ovarian Cancer

Interim Analysis Suggests Paclical Can Reduce Blood Levels

The results of an interim analysis from a phase III study suggest that Paclical could significantly reduce patient blood levels of Cancer Antigen 125, a biomarker for ovarian cancer progression.

The ongoing phase III study, conducted at 80 clinics in 16 European countries, will evaluate the effectivess and safety profile of Paclical in comparison to Taxol.

An estimated 650 participants will receive either Taxol (175 mg/m2 in a three-hour infusion) with the recommended pre-treatment or Paclical (250 mg/m2 in a one-hour infusion). Both drugs will be administered in combination with carboplatin.

The study's comparator drug, Taxol, requires extensive pre-medication to avoid hypersensitivity reactions to its solubilizer, Cremophor EL.

For the interim analysis, researchers took blood samples from 400 study participants and measured their levels of CA 125, a protein that is often elevated in women with ovarian cancer. An increased value in a woman previously diagnosed with ovarian cancer usually indicates disease progression. The results from the interim analysis shows that Paclical reduces CA 125 to the same level as Taxol.

Researchers graphed a curve representing CA 125 values gathered before and during treatment, and then measured the area beneath these curves, allowing analysts to consider both the values themselves and the rate at which patients responded to treatment.

Neither CA 125 nor these interim analysis methods have been used before to evaluate the efficacy of a phase III study, but both the study design and the analysis methodology are in accordance with scientific advice received by the European Medicines Agency in 2008.

Researchers will continue to use CA 125 for statistical analysis of time to response and proportion of responders, and to evaluate safety data from patients included in the interim analysis. The ongoing study will also continue to recruit patients and collect data from all participants on progression free survival, overall survival, time to progression, and other endpoints.

Based on the interim results, Oasmia plans to apply for marketing authorization for Paclical within the European Union for the indication of ovarian cancer.

Prostate Cancer

Hormone Therapy Can Reduce Survival In Men With Heart Problems

Adding hormone therapy to radiation therapy in men with prostate cancer may reduce overall survival in men with pre-existing heart conditions, according to a new study.

Adding hormone therapy to radiation therapy has been proven to improve overall survival for men with intermediate- and high-risk prostate cancer.

From a pool of 14,594 prostate cancer patients with brachytherapy-based radiation therapy between 1991 and 2006, the study identified 1,378 (9.4 percent) who had a history of congestive heart failure or myocardial infarction.

Among these men, 22.6 percent received supplemental external beam radiation therapy, and 42.9

percent received four months of androgen deprivation therapy.

For the entire group of men with a history of heart problems, adding hormone therapy led to a significant increase in overall mortality. Researchers found that men with pre-existing heart conditions and high-risk prostate cancer had five-year survival rate of 68.2 percent, compared to 80.5 percent in men who did not receive hormone therapy.

"We found that for men with localized prostate cancer and a history of heart problems, treatment with hormones plus radiation was associated with a higher all-cause mortality than treatment with radiation alone, even for patients with high-risk malignant disease," said lead author Paul Nguyen, a radiation oncologist at the Dana-Farber/Brigham and Women's Cancer Center.

Although hormone therapy has been shown in phase III trials to improve overall survival in high-risk disease, the small subgroup of high-risk patients with a history of heart disease may be harmed by the treatment.

"Future research is necessary to understand the mechanisms of this effect," Nguyen said. "In the meantime, I encourage men with prostate cancer and a history of heart disease to talk to their doctor about the benefits and risks of hormone therapy."

The study was published in the International Journal of Radiation Oncology·Biology·Physics.

Myeloma

Zometa Can Reduce Risk Of Skeletal-Related Events

Zoledronic acid (Zometa) injection can reduce the incidence and risk of skeletal-related events in patients with newly diagnosed multiple myeloma.

The paper, authored by J. Anthony Child, of University of Leeds, Gareth Morgan, of Royal Marsden Hospital, and their colleagues, was based on new analysis of data from from the Medical Research Council Myeloma IX study. This study was designed to compare the effects of zoledronic acid versus clodronic acid in newly diagnosed patients with multiple myeloma.

The article, published in The Lancet Oncology, reported only the secondary outcomes relating to skeletal events.

MRC Myeloma IX evaluated 1,960 participants aged 18 years or older with newly diagnosed multiple myeloma.

Out of those, 981 patients were randomized to intravenous zoledronic acid (4 mg every 21–28 days) and 979 to oral clodronic acid (1600 g/day). The drugs were administered until disease progression.

After a median follow-up of 3.7 years, 27 percent in the zoledronic acid group experienced a skeletal-related event, compared to 35 percent in the clodronic acid group.

Zoledronic acid was associated with a lower risk of any SRE, both among patients with bone lesions at baseline (35 percent vs. 43 percent with clodronic acid) and those without bone lesions at baseline (10 percent vs. 17 percent).

Fewer patients in the zoledronic acid group had vertebral fractures than did those in the clodronic acid group (5 percent in the zoledronic acid group vs. 9 percent in the clodronic acid group; p=0.0008); other fractures (5 percent vs. 7 percent); and new osteolytic lesions (5 percent vs. 10 percent).

"Although clinical guidelines recommend bisphosphonates for patients with documented bone lesions," the authors wrote, "all patients (with or without bone disease at baseline) could benefit when bisphosphonates are begun early in the course of multiple myeloma."

The authors also state that patients with multiple myeloma might benefit from continued use of zoledronic acid at least until disease progression.

"However, the optimum duration of zoledronic acid is not known, and some patients might benefit from continuing zoledronic acid, possibly at a reduced dose, during disease remission," they wrote. "Additional clinical trials are needed to further refine these aspects of treatment."

Brain Cancer

Cell Phone Radiation Does Not Raise Child's Risk of Tumors

According to a new study, children and adolescents who use mobile phones are not at a statistically significant increased risk of brain cancer compared to peers who do not use mobile phones.

Increased use has raised a concern about the possibility increased brain tumor risk, since children have a developing nervous system and a smaller head circumference that might allow radio frequency electromagnetic fields to penetrate deeper regions of the brain.

The study, led by Martin Röösli of the Swiss Tropical and Public Health Institute, looked at data for 352 brain cancer patients and 646 control subjects from

Norway, Denmark, Sweden and Switzerland, between 2004 and 2008.

Röösli and colleagues studied the medical records of brain tumor patients aged 7-19, identified through population registries; conducted face-to-face interviews with them regarding their mobile phone usage; and consulted data from phone network providers.

Researchers found that patients with brain tumors were not statistically significantly more likely to have been regular mobile phone users than control subjects. They found that 265 (75.3 percent) of case patients and 466 control subjects (72.1 percent) reported having spoken on a mobile phone more than 20 times before the time when the case patient was diagnosed. Furthermore, 194 case patients (55 percent) and 329 control subjects (51 percent) reported regular mobile phone usage.

No increased risk of brain tumors was observed for brain areas receiving the highest amount of exposure.

"Because we did not find a clear exposure-response relationship in most of these analyses, the available evidence does not support a causal association between the use of mobile phones and brain tumors," the researchers wrote.

The study was published in JNCI. In an accompanying editorial, John Boice, Jr., of the International Epidemiology Institute, and Robert Tarone, of Vanderbilt University, wrote that Röösli and colleagues "have filled an important gap in knowledge by showing no increased risk of brain tumors among children and adolescents who are regular cell phone users."

Boice and Tarone wrote that it is reassuring that incidence rates of brain cancer in the general population, including children and teenagers, have not changed over the past 20 years.

However, among a subset of participants for whom operator recorded data were available, Röösli and colleagues found a possible relation between brain tumor risk and the time elapsed since mobile phone subscription began (but not to amount of use).

Boice and Tarone recommend that investigators continue to monitor population incidence rates and that concerned individuals consider alternatives to holding a cell phone up to their ears, such as an earpiece or the phone's speaker.

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Clinical Trials Approved by NCI CTEP Last Month

The National Cancer Institute Cancer Therapy Evaluation Program approved the following clinical research studies last month. For further information, contact the principal investigator listed.

Phase I

ADVL1114: A Phase I Study of Temsirolimus (CCI-779, IND# 61010) in Combination with Intensive Re-Induction Therapy for Children with Relapsed Acute Lymphoblastic Leukemia and Non-Hodgkin Lymphoma. COG Phase 1 Consortium; Rheingold, Susan Robbins. (215) 590-3079

Phase II

8832: Phase II Study of IMC-A12 in Metastatic Uveal Melanoma. MD Anderson Cancer Center; Bedikian, Agop Y. (713) 792-2921

8875: A Phase II Trial in Which Patients with Metastatic Alveolar Soft Part Sarcoma are Randomized to Either Sunitinib or Cediranib Monotherapy, with Cross-Over at Disease Progression. National Cancer Institute Developmental Therapeutics Clinic; Kummar, Shivaani. (301) 435-5402

E1411: Intergroup Randomized Phase 2 Four Arm Study in Patients >/= 60 with Previously Untreated Mantle Cell Lymphoma of Therapy with: Arm A = Rituximab+Bendamustine Followed by Rituximab Consolidation (RB -->R); Arm B = Rituximab+Bendamustine+Bortezomib Followed By Rituximab Consolidation (RBV--> R), Arm C = Rituximab+Bendamustine Followed by Lenalidomide+Rituximab Consolidation (RB --> LR) or Arm D = Rituximab+Bendamustine +Bortezomib Followed by Lenalidomide+Rituximab Consolidation (RBV --> LR). Eastern Cooperative Oncology Group; Smith, Mitchell Reed. (215) 728-2674

GOG-0269: A Limited Access Phase II Trial Utilizing Bioimpedance to Measure Lower Extremity Lymphedema Associated with the Surgical Management of a Vulvar Cancer. Gynecologic Oncology Group; Carlson, Jay W. (202) 782-8432

NCCTG-GLNE010: Validation and Comparison of Biomarkers for the Early Detection of Colorectal Adenocarcinoma. North Central Cancer Treatment Group; Brenner, Dean Elliott. (734) 647-1417

RTOG-0938: A Randomized Phase II Trial of Hypofractionated Radiotherapy for Favorable Risk Prostate Cancer. Radiation Therapy Oncology Group; Lukka, Himanshu R. (905) 387-9495

RTOG-1114: Phase II Randomized Study of Rituximab, Methotrexate, Procarbazine, Vincristine, and Cytarabine with and Without Low-Dose Whole-Brain Radiotherapy for Primary Central Nervous System Lymphoma. Radiation Therapy Oncology Group; Omuro, Antonio Marcilio Padula. (212) 639-7523

S1106: A Randomized Phase II Trial of R-HCVAD/MTX/ARA-C Induction Followed by Consolidation with an Autologous Stem Cell Transplant Vs. R-Bendamustine Induction Followed by Consolidation with an Autologous Stem Cell Transplant for Patients </= 65 Years of Age with Previously Untreated Mantle Cell Lymphoma. Southwest Oncology Group; Bernstein, Steven H. (585) 275-3504

Phase III

AALL1131:A Phase III Randomized Trial for Newly Diagnosed High Risk B-precursor Acute Lymphoblastic Leukemia (ALL) Testing Clofarabine (IND# 73789, NSC# 606869) in the Very High Risk Stratum. Children's Oncology Group; Burke, Michael James. (612) 626-2778

ANZGOG-0902-GOG-0274: A Phase III Trial of Adjuvant Chemotherapy Following Chemoradiation as Primary Treatment for Locally Advanced Cervical Cancer Compared to Chemoradiation Alone: The OUTBACK Trial. Gynecologic Oncology Group; Moore, Kathleen N. (405) 271-8707

WFU-97609: Impact of Genomics and Exposures on Disparities in Breast Cancer Radiosensitivity. Wake Forest University Health Sciences; Urbanic, James John. (336) 713-6542

Other Phases

AAML11B10: Pharmacogenetics of Gemtuzumab Ozogamicin (GO) Therapy in Acute Myeloid Leukemia. Children's Oncology Group; Lamba, Jatinder. (612) 624-8651

AAML11B11: Signaling Heterogeneity and Associated Genetic Aberrations in Pediatric AML Tumor Subpopulations. Children's Oncology Group; Lacayo, Norman James. (650) 723-5535

AAML11B13: Xenotransplantation of Primary Leukemia Samples into Zebrafish. Children's Oncology Group; Berman, Jason Noah. (902) 470-8048

ACNS11B1: Examination of the Multiple Genetic and Molecular Targets as Therapeutic Options for Patients with Ependymoma Treated by the Phase II Children's Oncology Group Study ACNS0121. Children's Oncology Group; Tabori, Uri. (416) 813-7654 X 1503

ANBL11B4: Analysis of Intersectin Expression in Primary Human Neuroblastomas. Children's Oncology Group; O'Bryan, John P. (312) 996-6221

CALGB-151102: Evaluation of a Novel Molecular NSCLC Classification System. Cancer and Leukemia Group B; Boffa, Daniel Joseph. (203) 785-4931

CALGB-151107: Molecular Characterization of Lung Cancer: A Collaboration with the Cancer Genome Atlas Project (TGCA). Cancer and Leukemia Group B; Govindan, Ramaswamy .(314) 362-5737

E2404T1: The Molecular Mechanisms of Transformation in Peripheral T-cell and NK Lymphomas. Eastern Cooperative Oncology Group; Ferrando, Adolfo A. (212) 851-4611

E4402T3: The Influence of KIR and HLA Genotype on the Response to Rituximab Immunotherapy in Patients with Follicular Lymphoma. Eastern Cooperative Oncology Group; Ranheim, Erik. (608) 263-0057