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THE
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Cancer research news for clinicians

Prostate Cancer

ADT Does Not Raise Risk of Heart Attacks In Men With No History Of Heart Disease

Hormone-blocking therapy for prostate cancer doesn't raise the risk of fatal heart attacks—as some recent studies had suggested—according to a new report from Dana-Farber/Brigham and Women's Cancer Center.

In the past few years, FDA and some professional organizations have warned about androgen deprivation therapy, citing a few studies that linked ADT to a higher risk of heart attacks.

But according to the study, men without a prior history of heart disease should not worry about those risks. The study is being published in the Dec. 7 issue of the Journal of the American Medical Association.

Researchers found that cardiovascular deaths occurred in 11 percent of the patients who underwent ADT versus 11.2 percent in the control patients.

Scientists performed a meta-analysis of randomized studies involving 4,141 prostate cancer patients. The analysis found no difference in the rate of cardiovascular deaths in men receiving ADT compared with those who did not—however, the study could not rule out that ADT might elevate the risk of fatal heart attacks in patients with a history of heart disease.

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Colorectal Cancer

Trial In Metastatic Disease To Be Unblinded After Regorafenib Meets Primary Endpoint

An interim analysis of a phase III trial showed that the investigational compound regorafenib had met its primary endpoint, by improving overall survival for patients with metastatic colorectal cancer whose disease has progressed after therapy.

The CORRECT trial has been unblinded following recommendations from an independent data monitoring committee, and regorafenib will be offered to the placebo arm. Data from the study are expected to be presented at a forthcoming scientific meeting.

Regorafenib (BAY 73-4506) is an investigational oral multi-kinase inhibitor of angiogenic, stromal and oncogenic receptor tyrosine kinases and is currently being investigated in clinical trials for its potential to treat patients with various tumor types.

Regorafenib was granted fast track designation by the FDA for the treatment of patients with metastatic and/or unresectable gastrointestinal

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Men With No History Of Heart Disease Should Not Worry About ADT

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In 2006, researchers reported that ADT was associated with a 44 percent risk of diabetes, an 11 percent increase in heart attacks, and a 16 percent increase in sudden cardiac death. Another study found that men older than 65 who received ADT suffered heart attacks sooner.

In 2010, the American Heart Association, the American Cancer Society and the American Urological Association issued a joint statement alerting physicians to the potential risk, but said doctors should decide the therapies to recommend. That same year, FDA called for labels warning of increased risk of diabetes, heart attack and stroke.

The 4,174 patients enrvolled in the eight randomized trials in the meta-analysis mostly had "locally advanced" prostate cancer that had spread beyond the prostate gland, but hadn't metastasized to other organs.

Men in the study had a relatively short treatment period, about three years. In standard practice of medicine, men often stay on these drugs for seven years or longer.

The report included authors from Dana-Farber/ Brigham, Harvard Medical School, Harvard School of Public Health, MD Anderson Cancer Center, and Boston University School of Medicine.

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MDV3100 Improves Survival, Reduces Death Risk by 37%

Positive results from an interim analysis of a phase III trial of MDV3100 in men with advanced prostate cancer have led the trial's independent data monitoring committee to recommend that the trial be stopped early, and that men who received placebo be offered MDV3100.

The phase III AFFIRM trial is a randomized, double-blind, placebo-controlled, multinational trial evaluating MDV3100 160 mg/day versus placebo in 1,199 men with advanced prostate cancer who were previously treated with docetaxel-based chemotherapy. Enrollment was completed in November 2010 and the interim analysis was triggered at 520 events.

MDV3100, an androgen signaling inhibitor, demonstrated a 4.8-month median improvement in overall survival, as well as a 37 percent reduction in risk of death (HR=0.631). The estimated median survival for MDV3100-treated men was 18.4 months compared to 13.6 months for men treated with placebo.

The IDMC determined that MDV3100 had a favorable risk-to-benefit ratio sufficient to stop the trial, AFFIRM, considering the observed safety profile.

"MDV3100 was rationally designed to target androgen receptor signaling, a key driver of prostate cancer growth, and the overall survival benefit the compound demonstrated in the AFFIRM interim analysis is significant," said Howard Scher, chief of Genitourinary Oncology Service at Memorial-Sloan Kettering Cancer Center, and the co-principal investigator of the AFFIRM study. "If approved, MDV3100 will be a welcome option for men with prostate cancers that have progressed on hormones and initial chemotherapy."

The developers, Medivation Inc. and Astellas Pharma Inc., plan to hold a pre-NDA meeting with the FDA in early 2012 and will provide an update on regulatory timelines for MDV3100 subsequent to that meeting.

Xgeva Delays Metastases To Bone, Amgen Files To Expand Indication

Results from a phase III trial demonstrated that Xgeva significantly prolonged bone metastasis-free survival, delayed time to bone metastasis and reduced the risk of symptomatic bone metastases in men with nonmetastatic castration-resistant prostate cancer.

According to Amgen, this study is the first to show that targeting the bone microenvironment prevents bone

metastasis in men with prostate cancer.

The study, published in The Lancet, enrolled 1,432 men with hormone-refractory (castration-resistant) prostate cancer who had no bone metastases at baseline but were at increased risk of developing them based on their prostate specific antigen criteria.

Patients in the Xgeva (denosumab) arm had improved bone metastasis-free survival by 4.2 months, a risk reduction of 15 percent compared to the placebo arm (29.5 versus 25.2 months, respectively; HR=0.85; 95% CI: 0.73, 0.98; p=0.028). Time to first bone metastases was delayed by 3.7 months, reducing the risk by 16 percent (HR=0.84; 95% CI: 0.71, 0.98; p=0.032).

The risk of bone metastases that were symptomatic was reduced by 33 percent (HR=0.67; 95% CI: 0.49, 0.92; p=0.01).

Overall survival was similar between groups (HR=1.01; 95% CI: 0.85, 1.20; p=0.91). The study design required that patients discontinue Xgeva following development of bone metastasis so that they could receive standard approved treatment for prevention of skeletal-related events, therefore, the potential to measure a positive impact on survival was limited.

Adverse events and serious adverse events were relatively similar between the Xgeva and placebo arms. Hypocalcemia and osteonecrosis of the jaw were reported with increased frequencies in the Xgeva treated patients. The yearly rate of ONJ in the Xgeva arm was similar to prior Xgeva trial results. Back pain was the most common adverse event reported in the Xgeva arm of the trial.

Based on the trial's results, Amgen filed a supplemental Biologics License Application with the FDA to expand the indication for Xgeva to treat men with CRPC to reduce the risk of developing bone metastases. The agency has set April 26, 2012 as the targeted action date.

Colorectal Cancer

Regorafenib Trial Unblinded After Improving Overall Survival

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stromal tumors whose disease has progressed despite at least imatinib and sunitinib as prior treatments, as well as for the treatment of patients with mCRC who have progressed after approved standard therapies.

The CORRECT trial is an international, multicenter, randomized, double-blind, placebo-controlled study that enrolled 760 patients with mCRC whose disease has progressed after approved standard therapies.

Patients were randomized to receive either 160 mg of regorafenib or placebo plus best supportive care, once daily in a three-weeks-on/one-week-off treatment cycle.

The primary endpoint of this trial was overall survival. Secondary endpoints included progression-free survival, objective tumor response rate and disease control rate.

The developer, Bayer HealthCare, plans to continue discussions with international health authorities, including FDA and the European Medicines Agency, regarding next steps in filing for approval of regorafenib.

Elevated Baseline Glucose Levels Associated With Higher Cancer Risk

Elevated blood sugar levels are associated with an increased risk of colorectal cancer, according to a study that observed nearly 5,000 postmenopausal women.

The study, published in the British Journal of Cancer, involved women who were enrolled in the NIH Women's Health Initiative study.

By the end of a 12-year period, 81 of the women had developed colorectal cancer. The researchers found that elevated baseline glucose levels were associated with increased colorectal cancer risk. Women in the highest third of baseline glucose levels were nearly twice as likely to have developed colorectal cancer as women in the lowest third.

Results were similar when the scientists looked at repeated glucose measurements over time. No association was found between insulin levels and risk for colorectal cancer.

Researchers have long suspected that obesity's influence on colorectal cancer risk stems from the elevated insulin levels it causes. But the researchers suggest that the impact may stem from elevated glucose levels, or to some associated factor.

"The next challenge is to find the mechanism by which chronically elevated blood glucose levels may lead to colorectal cancer," said Geoffrey Kabat, a senior epidemiologist at Albert Einstein College of Medicine at Yeshiva University and lead author of the paper. "It's possible that elevated glucose levels are linked to increased blood levels of growth factors and inflammatory factors that spur the growth of intestinal polyps, some of which later develop into cancer."

Colon Cancer

Oncotype DX Cancer Test Can Predict Recurrence

Results from a clinical validation study showed that the Oncotype DX test can predict recurrence risk in stage II colon cancer patients following surgery.

The study, published online in the Journal of Clinical Oncology, analyzed 1,436 patients with stage II colon cancer. The test was found to predict recurrence risk (p=0.006), when analyzed in the presence of the clinical and pathological factors traditionally used by physicians to assess stage II colon cancer patients.

Researchers found that recurrence risk increased with increasing Recurrence Scores generated by the test, with an average recurrence risk at three years of 12 percent, 18 percent and 22 percent in the pre-defined low, intermediate and high risk groups, respectively.

The study further demonstrated that the Recurrence Score provides a continuous measure of recurrence risk at three years, ranging from a lowest risk of 9-11 percent to a highest risk of 25-27 percent.

"The Oncotype DX colon cancer test was made available in 2010 based on results from the QUASAR study, allowing physicians to go beyond the limited set of clinical and pathologic markers to make more informed decisions about the adjuvant use of chemotherapy for stage II colon cancer based on the quantitative individualized assessment of recurrence risk," said Steven Shak, chief medical officer at Genomic Health.

The test also provides clinical information such as T-stage, mismatch repair status, nodes examined, grade and lymphovascular invasion.

T4 stage (p=0.004) and MMR deficiency (p=0.004) were independently beneficial in predicting recurrence, and together comprise approximately 25 percent of patients.

Patients with stage II colon cancer whose tumors are determined to be MMR deficient have a low risk of recurrence. Genomic Health plans to start providing MMR IHC testing services to help physicians assess mismatch repair status for stage II colon cancer recurrence risk later this year.

Rectal Cancer

Signet Cell A Rising Trend In Patients Under Age 40

Signet cell histology is far more prevalent in rectal cancer patients under age 40, and is a rising trend, according to a team of researchers at the University of Minnesota.

Researchers isolated rectal adenocarcinoma cases in the SEER database and determined that signet cell histology was almost five times more prevalent in those under age 40 with rectal cancer than in older patients. The investigators reported their findings at the 2011 Annual Clinical Congress of the American College of Surgeons.

"The prevalence of signet cell histology in patients under age 40 was statistically significant at 4.63 percent vs. 0.78 percent in patients over 40," said lead investigator Patrick Tawadros.

Signet cell adenocarcinoma is typically diagnosed at a more advanced cancer stage, and this form of rectal cancer usually carries a worse prognosis than the mucinous and non-mucinous forms of rectal adenocarcinoma.

Cancer Screening

FIT More Effective Than gFOBT In All Colonoscopy Capacities

Fecal immunochemical testing is more effective in its health benefits at the same or lower costs compared to guaiac fecal occult blood testing at all levels of colonoscopy capacity, according to a study published in JNCI.

Colonoscopy capacity is the ability of a healthcare system to provide the service.

The effectiveness of screening depends partly on attendance at all screening rounds and on diagnostic yield. FIT may increase attendance and diagnostic yield compared to gFOBT, and may cause fewer false positive tests, according to the study.

Janneke Wilschut, of the department of public health at the University Medical Center in Rotterdam, the Netherlands, and colleagues used the MISCAN-Colon micro-simulation model, which simulates the relevant biographies of a large population from birth to death both without screening, as well as changes that would occur in screening programs.

The researchers estimated the number of colonoscopies, costs, and health effects of different screening strategies—using both gFOBT and FIT,

various age ranges, and multiple surveillance strategies.

They found that for a screening scenario for people ages 45 to 80 years in which there is unlimited colonoscopy capacity, screening intensively with the lowest FIT cutoff level for referral to colonoscopy (50 ng hemoglobin per mL) provided optimal health benefits for cost.

For a scenario with limited colonoscopy capacity, FIT with a higher cutoff level performed better than gFOBT and was more effective if the colonoscopy capacity was expanded.

The authors noted certain limitations of the study. They performed only one-way sensitivity analyses to evaluate the impact of other assumptions for some parameters and did not perform a probabilistic sensitivity analysis, stating that because of the large number of strategies needed to evaluate each draw a large computational effort would be required.

Nevertheless, they concluded: "It should be noted that FOBT screening can become considerably more effective if colonoscopy capacity is expanded. Efforts should therefore be undertaken to achieve an increased colonoscopy capacity."

In an accompanying editorial, Russell Harris, of the Cecil G. Sheps Center for Health Services Research at the University of North Carolina at Chapel Hill, and Linda Kinsinger, of the Department of Health Behavior and Health Education at the University of North Carolina School of Public Health, write that aggressive colonoscopy screening, termed "going the distance," in the U.S. has potential harms and costs that have not been fully explored.

They discuss that the use of simulation models could be useful to make decisions about how intensive screening should be under different colonoscopy capacities.

However, such models do not incorporate the potential harms of aggressive screening programs, such as patient anxiety, the discomfort and inconvenience of the colonoscopy bowel preparation, sedation effects, loss of productivity at work and home, overdiagnosis, and the risk of complications from a biopsy and polypectomy, or take into account a situation in which resources are limited.

Harris and Kinsinger suggest that outcomes tables are needed in addition to a simulation model to fully compare the benefits, harms, and costs of screening strategies.

Glioblastoma

Tumor Treating Fields Therapy Increased Three-Year Survival

Patients with glioblastoma multiforme who underwent treatment with Tumor Treating Fields therapy saw increased overall survival, compared to best standard of care chemotherapy at two- and three-year follow up, according to long-term results from a phase III trial.

With a median follow-up of 39 months, overall survival in the TTF group compared to the chemotherapy group was 9 percent vs. 7 percent after two years, and 8 percent vs. 1 percent after three years. After three years, the finding was not significant.

The study, presented at the annual scientific meeting of the Society for NeuroOncology, also showed trends in favor of TTF compared to chemotherapy in PFS6 (21.4 percent vs. 15.2 percent, respectively, p=ns) and radiological response rates (14.0 percent vs. 9.6 percent, respectively, p=ns).

"The results of this long-term follow up continue to validate the promise that NovoTTF therapy provides to the thousands of patients who suffer from recurrent GBM," said Asaf Danziger, CEO of Novocure. "We will continue to investigate the potential of this innovative treatment in other types of solid tumor cancers and look forward to sharing our results with the medical community in the future."

The NovoTTF-100A System is a non-invasive medical device designed for continuous use throughout the day by the patient.

The device has been shown in in vitro and in vivo studies to slow and reverse tumor growth by inhibiting mitosis. The device creates a low-intensity alternating electric field within the tumor that exerts physical forces on electrically charged cellular components, preventing the normal mitotic process and causing cancer cell death prior to division.

FDA has approved the system for use as a treatment for adult patients, following histologically or radiologically confirmed recurrence in the supra-tentorial region of the brain after receiving chemotherapy. The device is intended to be used as monotherapy and is intended as an alternative to standard medical therapy after surgical and radiation options have been exhausted.

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Cancer Screening

Only 20 Percent Of At-Risk Patients Are Screened For HBV Before Therapy

Only 20 percent of patients with newly diagnosed cancer who had hepatitis B virus risk factors are screened for HBV infection before starting chemotherapy—increasing the preventable danger that the virus might be reactivated by chemotherapy treatment, according to a study by researchers at MD Anderson Cancer Center.

Reactivation may have occurred in nearly 25 percent of all patients with HBV who received chemotherapy. By using well-known HBV risk factors, this reactivation is preventable with screening and antiviral prophylaxis prior to chemotherapy, and could reduce mortality rates in cancer patients with HBV.

Researchers examined the medical records of 70,737 patients and concluded that the amount of screening is inadequate.

"Reactivation is preventable and depends only on accurate screening and prophylaxis. For medical providers to practice effective screening, data-driven policies and strong collaboration among oncology and hepatology communities are essential," said Jessica Hwang, the study's lead author.

MRI Screening

New Algorithm Completes Scan Three Times Faster Than Before

A new algorithm developed at MIT's Research Laboratory of Electronics could complete MRI scans three times faster.

The algorithm takes information gained from the first contrast scan to help it produce subsequent images. Using this method, the scanner does not have to start from scratch each time it produces a different image from the raw data, but uses a basic starting outline, considerably shortening the time it takes to acquire each scan.

The paper, published in Magnetic Resonance in Medicine, describes how the software looks for features that are common to all scans, such as basic anatomical structure.

"If the machine is taking a scan of your brain, your head won't move from one image to the next," said Elfar Adalsteinsson, associate professor of electrical engineering and computer science and health sciences and technology.

"So if scan number two already knows where your head is, then it won't take as long to produce the image as when the data had to be acquired from scratch for the first scan."

The result is an MRI scan that cuts the time patients spend in the machine from 45 to 15 minutes. This faster scan time does have a slight impact on image quality, admits graduate student and first author Berkin Bilgic, but it is much better than competing algorithms.

The team is now working to speed up the time it takes to process the raw image data into a final scan that can be analyzed by clinicians. Using standard computer processors, this final step currently takes considerably longer than with conventional MRI scans.

Survivorship

Survivorship Studies Unfocused As Total Research Increases

A disproportionate number of studies focus on specific tumor sites, prevention, early detection and post-treatment effects impacting cancer survivors, even though there has been a general increase in survivorship research.

"Prostate cancer survivors make up 20 percent of the total cancer survivorship population, but only 5 percent of current research projects focus specifically on prostate cancer survivors," said Electra Paskett, associate director for population sciences at The Ohio State University Comprehensive Cancer Center—Arthur G. James Cancer Hospital and Richard J. Solove Research Institute. "Breast cancer survivors represent 22 percent of the survivor population, yet 40 percent of current research focuses on female breast cancer survivors."

According to the study, published in Cancer Epidemiology, Biomarkers & Prevention, researchers found that colorectal, gynecologic and hematological cancers are also underrepresented in cancer survivorship studies.

According to Paskett, findings indicated that "quality of life" as a specific research focus more than doubles that of prevention, early detection and late effects of treatment.

Most cancer survivorship research focuses on psychological or quality of life issues, exercise and psychosocial issues, while several topics important to survivors were found to be the least likely to be studied, including: radiation effects, hot flashes, fertility, complementary and alternative medicine use, and dental issues.

The study also found a shift to an observational approach, compared to interventional research.

Researchers found a total of 111 ongoing observational studies, including case control and cohort studies, and 72 interventional studies currently underway nationwide.

"The number of randomized controlled trials has remained relatively constant in the last decade, which is surprising with the growing emphasis on evidence-based practice," said Paskett. "Research on coping and tobacco and alcohol use has declined, though the problems remain important for survivors."

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

GOG-9927: A Phase I Trial of Doxil (R), Carboplatin and NCI Supplied Veliparib (ABT-888) in Recurrent Platinum Sensitive Ovarian, Primary Peritoneal and Fallopian Tube Cancer. Gynecologic Oncology Group; Landrum, Lisa M. (405) 271-8707

Phase I/II

8860: A Phase I/II Trial of Cetuximab in Combination with Interleukin-12 Administered to Patients with Unresectable Primary or Recurrent Squamous Cell Carcinoma of the Oropharynx. Ohio State University Medical Center; Carson, William E. (614) 293-6306

Phase II

S1008: Feasibility Study of a Physical Activity and Dietary Change Weight Loss Intervention in Breast and Colorectal Cancer Survivors, Phase II. Southwest Oncology Group; Greenlee, Heather. (212) 342-4130

S1108: Phase II Trial of the Aurora Kinase A Inhibitor MLN8237, in Relapsed or Refractory Peripheral T-Cell Non-Hodgkin Lymphoma. Southwest Oncology Group; Barr, Paul M. (585) 273-3258

WFU-10-05-16: A Feasibility Study of Donepezil in Female Breast Cancer Survivors with Self-Reported Cognitive Dysfunction Following Chemotherapy. Wake Forest University Health Sciences; Lawrence, Julia A. (336) 716-7975

Phase II/III

N1048: A Phase II/III Trial of Neoadjuvant FOLFOX, with Selective Use of Combined Modality Chemoradiation Versus Preoperative Combined Modality Chemoradiation for Locally Advanced Rectal Cancer Patients Undergoing Low Anterior Resection with Total Mesorectal Excision. North Central Cancer Treatment Group; Schrag, Deborah. (617) 582-8301

Other Phases

ARST12B2: Integrative Epigenomic Approach to Gene Discovery in Rhabdomyosarcoma (RMS). Children's Oncology Group; Hu, Caroline Y. (201) 996-5437

E5397T2: Detection of DNA Mutations in Head and Neck Squamous Cell Carcinoma. Eastern Cooperative Oncology Group; Chung, Christine Hwayong. (410) 502-0678

E5397T3: PTEN Determination in Squamous Cell Cancer of The Head and Neck Treated on E5397, A Randomized Phase III Trial of Cisplatin Plus Placebo Versus Cisplatin Plus C225 (Cetuximab) in Metastatic/Recurrent Head and Neck Cancer. Eastern Cooperative Oncology Group; Burtness, Barbara Ann. 215-728-3023

FDA News

Agency Approves HPV Test That Detects 14 High-Risk Strains

FDA approved the Aptima HPV assay, an amplified nucleic acid test that detects 14 types of high-risk strains of human papillomavirus associated with cervical cancer and precancerous lesions. The test has been approved to run on the Gen-Probe Incorporated TIGRIS instrument system.

Testing is performed from ThinPrep liquid cytology specimens routinely used for Pap testing. Unlike other FDA-approved, DNA-based HPV tests, the APTIMA HPV assay detects messenger RNA over-expressed from two viral oncogenes that are integral to the development of cervical cancer.

"We believe our Aptima HPV assay will offer physicians and patients a more accurate screening test for cervical cancer, and significantly improve testing efficiency for our laboratory customers," said Carl Hull,

Gen-Probe's president and chief executive officer. "FDA approval represents a major milestone for the company, since developing the Aptima HPV assay was the largest and most complex diagnostic R&D program we have ever completed."

"Most HPV infections clear up on their own, so it's important to identify those persistent, high-risk infections that are most likely to lead to cervical cancer," said Tom Wright, professor of pathology and cell biology at the Columbia University Medical Center.

The assay is approved to test women age 21 and older whose Pap tests showed atypical squamous cells of undetermined significance, and to screen women age 30 and older as an adjunct to Pap testing.

Approval was based on data from the CLEAR (CLinical Evaluation of Aptima HPV RNA) trial, which analyzed approximately 11,000 women undergoing routine Pap testing at 18 U.S. clinics.

* * *

FDA granted 510(k) clearance for commercialization of Translational Sciences Corporation's OncoTrac medical imaging software.

OncoTrac is designed for quantitative assessment of treatment response of metastatic tumors including breast, lung, colorectal, prostate and lymphoma. The software facilitates tumor response assessment using widely accepted standards such as RECIST 1.0, RECIST 1.1, and WHO, as well as emerging standards such as the Choi criteria.

It is designed to assure conformity to response assessment standards and to aid compliance with established clinical research standards including FDA Good Clinical Practice and Part 11 Electronic Medical Records.

EU News

Alimta Granted Approval As NSCLC Continuation Therapy

The European Commission has granted approval for the use of Alimta (pemetrexed for injection) as a single agent for continuation maintenance therapy in patients with advanced nonsquamous non-small cell lung cancer.

The approval was based on results from PARAMOUNT, a randomized, double-blind phase III study. The study met its primary endpoint of progression-free survival, and a preliminary analysis has shown a strong trend toward positive overall survival. Alimta is the first chemotherapy agent to be approved in Europe for continuation maintenance therapy.

Alimta is approved in Europe and the U.S. for three indications in patients with advanced nonsquamous NSCLC, including first-line treatment in combination with cisplatin, second-line treatment, and maintenance treatment of patients whose disease has not progressed immediately following platinum-based chemotherapy.

Alimta is also approved, in combination with cisplatin, in both the EU and U.S. for the treatment of chemotherapy-naïve patients with unresectable malignant pleural mesothelioma.

* * *

Caprelsa (vandetanib) received a positive opinion from the European Medicines Agency's Committee for Medicinal Products for Human Use for the treatment of aggressive and symptomatic medullary thyroid cancer in patients with unresectable, locally advanced, or metastatic disease.

The opinion was reached after the CHMP reviewed data from a double-blind phase III trial of 331 patients with advanced MTC that has progressed and spread to other parts of the body. The study showed a 54 percent reduction in risk for disease progression compared to placebo.

Caprelsa is an oral kinase inhibitor using two distinctive mechanisms of action: blocking the blood supply to the tumor by slowing the VEGF pathway and reducing the growth and survival of the tumor through EGFR and RET pathways.

The CHMP's opinion will now be reviewed by the European Commission for approval. Caprelsa was approved by FDA in April 2011 and is also under review in Canada and Switzerland. Currently there are no approved therapies in Europe for this advanced stage of the disease.

The proposed indication also states that for patients with an unknown or negative RET mutation, a possible lower benefit should be taken into account before individual treatment decisions. Clinical data showed that patients benefit from treatment with Caprelsa regardless of their RET status.

Following CHMP's requirement, AstraZeneca will conduct a further study to generate additional data to confirm the benefits in patients who are RET negative.