PHARMACY CORNER

Cetuximab Shown to Improve Lung Cancer Survival

As reported by Pirker et al. (2009), modest improvements in survival (11.3 months versus 10.1 months) were seen with the addition of the monoclonal antibody cetuximab (Erbitux™, Bristol-Myers Squibb) to a standard platinum doublet in treating epidermal growth factor receptor (EGFR)-positive lung cancer. Patients were randomized to receive chemotherapy alone (n = 568) or chemotherapy plus cetuximab (n = 557). Chemotherapy consisted of cisplatin 80 mg/m^2 on day 1 and vinorelbine 25 mg/m^2 on days 1 and 8 of each three-week cycle for up to six cycles. Cetuximab was dosed at 400 mg/m^2 on day 1 followed by weekly infusions at 250 mg/m^2 until disease progression.

Pirker, R., Pereira, J.R., Szczesna, A., von Pawel, J., Krzakowski, M., Ramlau, R., et al. (2009). Cetuximab plus chemotherapy in patients with advanced non-small cell lung cancer: An open-label randomized phase III trial. *Lancet, 373*(9674), 1525–1531.

Vaccine Improves Survival in Patients at Risk for Recurrence

Patients at intermediate risk for recurrence of kidney cancer (stages I–II high grade or stage III T1, T2, or T3a low grade) following surgery who were randomized to receive the vitespen (Oncophage™, Antigenics Inc.) cancer vaccine demonstrated a 46% reduced risk of death compared to observation alone (n = 362, p = 0.036, hazard ratio = 0.54) at a median follow-up of 4.5 years. Vitespen is a vaccine derived from an individual's own tumor. By using a tumor's antigenic fingerprint, the vaccine enables an individual's immune system to target cancer cells. Vitespan has received U.S. Food and Drug Administration (FDA) orphan drug designation for the treatment of kidney cancer, metastatic melanoma, and glioma.

For more information, visit www.antigenics.com/news/2009/0601.phtml.

Bevacizumab Approved for Glioblastoma Treatment

Based on the objective response rates seen in two single-arm trials, bevacizumab (Avastin®, Genentech, Inc.) has been granted FDA accelerated approval in the setting of previously treated glioblastoma.

In the AVF3708g trial, patients treated with bevacizumab monotherapy (n = 85) demonstrated a 25.9% response rate with a median response duration of 4.2 months. The most commonly observed adverse events of any grade included infection (55%), fatigue (45%), headache (37%), hypertension (30%), epistaxis (19%), and diarrhea (21%).

In the separate National Cancer Institute study (06-C-0064E), patients (n = 56) demonstrated a 19.6% response rate to bevacizumab with a median response duration of 3.9 months.

For both studies, patients received bevacizumab 10 mg/kg IV every two weeks until disease progression or intolerable side effects occurred. All patients were previously treated with temozolomide and radiation therapy.

For more information, visit www.accessdata.fda.gov/drugsatfda_docs/label/2009/125085s0169lbl.pdf and www.ons.org/fda/documents/FDA050409.pdf.

Trial Points to New Treatment for Non-Hodgkin Lymphoma

As reported by Pettengell et al. (2009), phase III clinical trial results indicate pixantrone (Cell Therapeutics, Inc.) may be a viable option for salvage therapy in patients with aggressive relapsed non-Hodgkin lymphoma (NHL).

In the randomized, controlled international study, patients were randomized to receive pixantrone (n = 70) or one of several standard chemotherapy regimens (n = 70). Compared to the control group, patients treated with pixantrone demonstrated a significant increase in complete remission (20% versus 5.7%, p = 0.021), overall response rate (37.1% versus 14.3%, p = 0.003), and progression-free survival (4.7 months versus 2.6 months, p = 0.007).

Pixantrone was dosed at three 85 mg/m^2 IV infusions per week in four-week cycles for up to six cycles. Compared to the standard control group, the most common grade 3 and 4 adverse reaction in the pixantrone arm was neutropenia (41.2% versus 19.4%), and a greater number of cardiac disorders occurred compared to the control group (8.8% versus 4.5%).

Pettengell, R., Narayanan, G., Hurtadode de Mendoza, F., Digumarti, R., Gomez, H., Cernohous, P., et al. (2009). Randomized phase 3 trial of pixantrone versus other chemotherapeutic agents for third-line single-agent treatment of relapsed aggressive non-Hodgkin lymphoma. Retrieved June 20, 2009, from http://www.celltherapeutics.com/pdf/ASCO09_PIX301.pdf

Dasatinib Gains Approval for Various Treatments

The FDA has granted dasatinib (Sprycel™, Bristol-Myers Squibb) full approval for the treatment of chronic myeloid leukemia (CML) in the setting of imatinib mesylate (Gleevec™, Novartis Oncology) resistance or intolerance.

Dasatinib has also been approved in the treatment of Philadelphia chromosome-positive acute lymphoblastic leukemia (Ph+ ALL). For patients in chronic phase CML, the recommended dosage is 100 mg daily with or without food. All other phases of CML and Ph+ ALL are dosed at 140 mg daily.

Common reactions associated with dasatinib usage include myelosuppression, bleeding, fluid retention, QT prolongation, diarrhea, and skin rash.

For more information, visit www.accessdata.fda.gov/drugsatfda_docs/label/2009/021986s004lbl.pdf.

SAFETY CONCERNS

Erlotinib Warnings and Precautions Updated

Labeling for erlotinib (Tarceva™, OSI & Genentech) has been updated to include warnings regarding the risk for gastrointestinal perforations and serious dermal and ocular toxicities.

Gastrointestinal perforations can be fatal, and erlotinib therapy should be discontinued if they occur. Fatalities have occurred. Concomitant usage of anti-angiogenic agents, nonsteroidal inflammatory agents, and/or taxane therapy was associated with an increased risk of gastrointestinal perforation. A history of peptic ulcer disease or diverticular disease also increased the risk of occurrence.

Serious dermal reactions may occur in the form of bullous, blistering, and exfoliative skin conditions. Some reported cases were similar to Steven-Johnson's syndrome/toxic epidermal necrolysis. Fatalities have occurred. In the case of serious dermal reactions, erlotinib therapy should be interrupted or discontinued.

Ocular disorders observed include corneal ulceration, abnormal eyelash growth, and keratoconjunctivitis. Erlotinib therapy should be interrupted or discontinued in the presence of acute or worsening ocular disorders, such as eye pain.

For more information, visit www.fda.gov/downloads/Safety/MedWatch/SafetyInformation/SafetyAlertsforHumanMedicalProducts/UCM150610.pdf.

NOTEWORTHY

U.S. Government Passes Landmark Tobacco Legislation

In a vote of 79–17, the U.S. Senate approved the Family Smoking Prevention and Tobacco Control Act on June 11, 2009. Having passed in identical form in the House of Representatives on April 2, 2009, the bill was signed into law by President Obama on June 20. This bill grants the FDA power to regulate tobacco products. Supporters say the bill will better enable efforts to prevent smoking in minors, improve cessation efforts, and more clearly inform consumers of the toxic ingredients found in tobacco products. The bill does not, however, grant the FDA the power to eliminate nicotine in tobacco products.

To view the bill, visit www.govtrack.us/congress/billtext.xpd?bill=h111-1256. To give feedback to your senators, visit the ONS Legislative Action Center at http://capwiz.com/ona/issues/alert/?alertid=13537921.

Starting Nicotine Gum Prior to Quitting Shows No Benefit

An open, randomized trial of smokers seeking to quit smoking (n = 314) sought to determine if starting therapy with nicotine polacrilex gum (4 mg) four weeks before the target quit date would improve cessation rates. No benefit was seen. In the pretreatment group (n = 154), patients were provided with nicotine gum and instructed to cut their smoking by 50% prior to the target date. The control group (n = 160) was instructed to quit smoking abruptly on the target date and begin nicotine gum therapy. Four-week abstinence from smoking rates were 41.6% in the pretreatment group versus 44.4% in the control group (p = 0.61). One-year abstinence rates were 20.8% in the pretreatment group versus 19.4% in the control group (p = 0.76) (Etter, Huguelet, Perneger, & Cornuz, 2009).

Etter, J.F., Huguelet, P., Perneger, T.V., & Cornuz, J. (2009). Nicotine gum treatment before smoking cessation. *Archives of Internal Medicine, 169*(11), 1028–1034.

Test Detects Epidermal Growth Factor Receptor Mutations

Clarient, Inc., has developed a test for EGFR mutation to help guide treatment decision making in patients with non-small cell lung cancer (NSCLC). Although EGFR tyrosine kinase inhibitors (TKIs) such as erlotinib (Tarceva™, OSI & Genentech) have been an important development in the treatment of NSCLC, they are only beneficial in a subset of the NSCLC population. The test developed by Clarient is hoped to help predict which patients are likely to benefit from EGFR-TKI therapy.

For more information, visit http://ir.clarientinc.com/phoenix.zhtml?c=62923&p=RssLanding&cat=news&id=1299400.

Lymphoma Survivors Face Increased Risk of Stroke

As reported by De Bruin et al. (2009), a retrospective cohort study of non-Hodgkin lymphoma survivors (n = 2,201) treated with radiation and chemotherapy, revealed a greater than two-fold increased risk for strokes and transient ischemic attacks (TIAs) compared to the general population. At a median follow-up of 17.6 years, 96 patients had experienced cerebrovascular events. The majority were embolic in nature. The incidence of strokes was 2.2 times greater than the general population (95% confidence interval [CI] 1.7–2.8), and the incidence of TIAs was 3.1 times greater (95% CI 2.2–4.2). Radiation therapy to the neck and mediastinum were identified as independent risk factors for the occurrence of later cerebrovascular events, and the authors suggest physicians consider risk reduction strategies.

De Bruin, M.L., Dorresteijn, L.D.A., van't Veer, M.B., Krol, A.D.G., van der Pal, H.J., Kappelle, A.C., et al. (2009). Increased risk of stroke and transient ischemic attack in five-year survivors of Hodgkin lymphoma. Retrieved June 20, 2009, from http://jnci.oxfordjournals.org/cgi/content/abstract/djp147.

Study Does Not Find Acrylamide and Lung Cancer Connection

Acrylamide, a chemical compound found in foods cooked at high temperatures, has been shown to be a dietary carcinogen in animal models and is likely a human carcinogen. Positive associations have been noted between acrylamide intake and the incidence of endometrial, ovarian, breast, and renal cancers. However, Hogervorst, Schouten, Konings, Goldbohm, and van den Brandt (2009) examined data from 58,279 men and 62,573 women and did not find a positive association between lung cancer incidence and acrylamide intake.

Hogervorst, J.G.F., Schouten, L.J., Konings, E.J.M., Goldbohm, R.A., & van den Brandt, P.A. (2009). Lung cancer risk in relation to dietary acrylamide intake. *Journal of the National Cancer Institute, 101*(9), 651–662.

PRODUCT UPDATE

Instrument May Improve Breast Cancer Detection

The Dilon 6800® Gamma Camera (Dilon Technologies) may improve breast cancer detection and guide surgical decision making when used as a complement to mammography through the use of breast-specific gamma imaging (BSGI). Using a tracing agent that is taken up by cells with greater metabolic activity, BSGI can detect cancer lesions independent of tissue density.

For more information, visit www.dilon.com/pages/dilon_6800_gamma_camera/24.php.

Description of products does not indicate or imply endorsement by the *Oncology Nursing Forum* or the Oncology Nursing Society. Michael Smart, RN, BSN, OCN®, can be reached at nursemrsmart@aol.com, with copy to editor at ONFEditor@ons.org.

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