

AU InforMed

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Guest Editors: Josh White and Amanda Gardner, Pharm.D. Candidate; Wesley Lindsey, Pharm.D.



Key Inforbits

- Zolinza™ to begin phase II trial
- A link in survival and gene expression
- CAM compliments updated guidelines
- Environmental exposure
- Kicking the habit (this time)
- “So long as.....”



National Lung Cancer Awareness Month



NEW DRUGS, and other related stuff ...

New Drug Indication under investigation ... Zolinza™ (vorinostat by Merck) is a cancer drug that has been approved for the treatment of T-cell lymphoma and has completed a phase I trial for the treatment of non-small cell lung cancer. Zolinza™ has a novel mechanism of action, in that it inhibits histone deacetylase. Histone deacetylases are a family of enzymes that regulate gene transcription, and inhibiting these enzymes increase the expression of tumor suppression genes. Zolinza™ was found to be well tolerated and had good activity against non-small cell lung cancer when used in combination with carboplatin and paclitaxel.

Ramalingam SS, Parise RA, Ramanathan RK, Lagattuta, TF, Musguire LA, Stoller RA, et al. Phase I and pharmacokinetic study of vorinostat, a histone deacetylase inhibitor, in combination with carboplatin and paclitaxel for advanced solid malignancies. *Clin Can Resource*. 2007 Jun 15;13(12):3605-10.

<http://www.zolinza.com> (Merck web site)

New route of administration... Cisplatin, one of the most widely used cancer agents has been administered intravenously. A phase I trial was done to investigate the possibility of using it as an aerosolized liposomal agent for the treatment of lung cancer. This study found that sustained release lipid inhalation targeting (SLIT) cisplatin to be well tolerated with the most common adverse events being vomiting (44.4%), dyspnea (66.7%), fatigue (66.7%), and hoarseness (27.8%). Low levels of platinum were found in the blood stream following repeated treatments which may lead to fewer incidences of systemic side effects.

Wittgen B, Kunst P, Born K, Wijk AW, Perkins W, Pilkiewicz FG, et al. Phase I study of aerosolized SLIT cisplatin in the treatment of patients with carcinoma of the lung. *Clin Can Resource*. 2007 Apr 15;13(8): 2414-21.

Prophylactic cranial irradiation improves survival... A study in the *New England Journal of Medicine* found that prophylactic cranial irradiation in patients with extensive small-cell lung cancer that responded to chemotherapy improved patients outcomes by doubling the one year survival rate from 13.3% to 27.1%. Prophylactic radiation therapy reduces the incidences of symptomatic brain cancer and prolongs drug free time and improves overall survival.

Slotman B, Faivre-Finn C, Kramer G, Rankin E, Snee M, Hatton M, et al. Prophylactic cranial irradiation in extensive small-cell lung cancer. *N Engl J Med.* 2007;357:664-72.

Gene expression linked to survivalship... A recent study found that increased expression of the gene *RRM1* in tumor cells is linked to improved survival after surgical resection. *RRM1* indicates a high survival rate when found in high expression following surgery for early-stage non-small cell lung cancer. The study found that high expression patients had an overall survival of more than 120 months compared to the low expression group which overall survival was only 60 months. Further studies need to be done to determine how this will impact the treatment of cancer.

Zheng Z, Chen T, Xueli L, Haura E, Sharma A, Bepler G. DNA synthesis and repair genes *RRM1* and *ERCC1* in lung cancer. *N Engl J Med.* 2007;356:800-8.



FROM THE MEDICAL LITERATURE ...

Update to ACCP Guidelines for Lung Cancer... Due to the importance of lung cancer as the leading cause of cancer deaths, the American College of Chest Physicians (ACCP) developed evidence-based guidelines for the diagnosis and management of lung cancer in January of 2003. Fortunately the knowledge of lung cancer has greatly increased which made it necessary for the ACCP to produce a supplement that contains several new chapters which include: diagnostic surgical pathology in lung cancer, screening for lung cancer, quality of life measurement, and palliative care consultation, just to name a few. The full update is available in the September 2007 *Chest* journal.

Alberts, WA. Diagnosis and management of lung cancer: ACCP evidence-based clinical practice guidelines (2nd Edition). *Chest.* 2007 Sept; 132 (3 Suppl):1S-19S.

Complementary Therapies added to the Guidelines... Among the new additions to the ACCP guidelines for the treatment of lung cancer is a chapter on complementary therapies and integrative oncology in lung cancer. The chapter recommends that all patients receive guidance about the advantages, like pain relief, and disadvantages, such as therapies not proven effective, of alternative therapies. It also recommends that patients with pain or anxiety see an oncology-trained massage therapist as part of a multimodality treatment.

Acupuncture is recommended for poorly controlled pain, nausea/vomiting, or for patients who do not quit smoking despite use of other options. Alternative therapies that are not recommended include manipulation of bioenergy fields, electro stimulation wristbands, or "alternatives" to mainstream care because these treatments have not been proven to be more effective than placebo (eg, Oncotox® which is called a natural chemotherapy). Dietary supplements, in particular herbal products, are evaluated for side effects and potential interactions.

Cassileth BR, Deng G, Gomez JE, Johnstone PA, Kumar N, Vickers AJ. Complementary therapies and integrative oncology in lung cancer: ACCP evidence-based clinical practice guidelines (2nd Edition). *Chest.* 2007 Sept;132 (3 Suppl):340S-54S



Reviews of Note ...

- Bonnie RJ, Stratton K, Wallace RB, eds, Committee on Reducing Tobacco Use: Strategies, Barriers, and Consequences. *Ending the Tobacco Problem: A Blueprint for the Nation*. National Academy of Science, 2007.
- Garwood CL, Potts LA. Emerging pharmacotherapies for smoking cessation. *Am J Health-Syst Pharm*. 2007 Aug 15;64:1693-1698.
- Dent LA, Harris KJ, Noonan CW. Tobacco interventions delivered by pharmacists: A summary and systematic review. *Pharmacotherapy*. 2007;27(7):1040-1051.
- Potts LA, Garwood CL. Varenicline: The newest agent for smoking cessation. *Am J Health-Syst Pharm*. 2007 Jul 1;64:1381-1384.
- Expert Panel Report 3: Guidelines for the Diagnosis and Management of Asthma. National Asthma Education and Prevention Program. National Heart, Lung and Blood Institute, 2007, pp. 1-440.
- Peters-Golden M, Henderson WR Jr. Leukotrienes. *N Engl J Med*. 2007 Nov 1;357(18):1841-1854.
- Abramowicz M, ed. Drugs for chronic obstructive pulmonary disease. *Med Lett Treat Guidelines*. 2007 Nov;5(63):95-100.

FROM THE LAY LITERATURE about medicine ...

Environmental exposure ... Did you know that exposure to certain substances in our environment can increase your chances of lung cancer? Environmental exposure to known carcinogens, like radon and asbestos, can lead to lung cancer and usually occur on the job. But, the number one environmental risk factor associated with lung cancer occurrence might not surprise you, it's cigarette smoke. The dose, degree, and duration of exposure are just a few factors that can determine the risk of cancer development in an individual. For further information on lung cancer risk and how you can decrease your chances visit: <http://www.lungcancer.org/>.



INTERESTED IN QUITTING SMOKING...tips for quitting

Owning the keys to success ... Ever wanted to quit smoking, but just don't know how? Quitting smoking can be stressful. Fortunately, there's new reasons to relax, here are 5 keys to not only quitting, but quitting successfully. Increase your chances of success by using the following tips for quitting:



1) Getting ready to quit- If you expect victory in the end, then your path to action requires a plan. Set a date to quit and stick to it. Change the things around you that might tempt or remind you of smoking. Have you failed before? Figure out why ahead of time and avoid being trapped again.

2) Call for reinforcements- Quitting smoking is hard work and no one should be expected to go it alone. Contact your friends and family for support, speak with your physician or pharmacist, and/or look to a support groups like Nicotine Anonymous for assistance. Use the resources available to you!

3) Learn new skills and behaviors- Use diversion tactics to your advantage. Change your routine to discourage falling into bad habits. Find new activities that reduce stress. Drink plenty of fluids and keep those hands busy!

4) Take advantage of medications available on the market- There are medications available that can curb your desire to smoke. Medications available over the counter include: Nicotine gum and patches. Options available by prescription only are: Chantix™, bupropion SR, nicotine inhaler, and nicotine nasal spray. Consult your physician to determine whether medication use for smoking cessation is right for you.

5) Be prepared for set backs- The road to success is a hard one. Most people do not quit successfully without relapse on their first try. Several triggers have been determined as a potential recipe for failure such as alcohol use, other smokers, depression, and weight gain. Staying abreast of these situations will both empower you, and increase your chances of success. Surgeongeneral.gov [homepage on the Internet]. Washington DC: U.S. Public Health Service. You Can Quit Smoking. Consumer Guide, June 2000. <http://www.surgeongeneral.gov/tobacco/quits.htm>

Tobacco Cessation Guidelines from the Virtual Office of the Surgeon General

New findings about the latest drugs and counseling techniques for treating tobacco use and dependence can be found at <http://www.surgeongeneral.gov/tobacco/default.htm>.

For those in the Auburn area...  the Auburn University Pharmaceutical Care Clinic (AUPCC) has the "Pack It Up" smoking cessation program provides pharmaceutical care to individuals who desire to quit smoking. Pharmacists work with patients to evaluate their readiness to change and develop a plan of action for cessation. Assistance is provided in assessing the need for pharmacotherapy to facilitate the process. For more information about this program you can call the AUPCC at (334) 844-4099 or e-mail them at aupcc4u@auburn.edu.

Other Sites for general Lung health information...

<http://www.nlhep.org> : The national lung health education program website

<http://www.lungusa.org/>: The American Lung Association website

<http://www.worldlungfoundation.org/>: the world lung foundation website



The last "dose" ...

"So long as there is breath in me, that long I will persist. "

-Og Mandino [Salesman, motivational speaker/author, 1923 - 1996]



An electronic bulletin of drug and health-related news highlights, a service of ...

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