

Updated ACCP Guidelines for the diagnosis and management of lung cancer: what are the important changes in recommendations?

W. Michael Alberts

The H. Lee Moffitt Cancer Center, Department of Interdisciplinary Oncology, University of South Florida College of Medicine, Tampa, FL, USA

Lung cancer continues to be the leading cause of cancer deaths in both men and women. In the United States, for example, deaths from lung cancer in women surpassed those due to breast cancer in 1987 and are expected to account for about 26% of all female cancer deaths in 2007 [1]. Thirty-one percent of cancer deaths in men are attributable to lung cancer [1]. Lung cancer causes more deaths than the next four most common cancers combined (colon – 52,180, breast – 40,910, pancreas – 33,370 and prostate – 27,050) [1].

International statistics are no more comforting (and in many cases, more ominous). Approximately, 1.2 million people worldwide died of lung cancer in the year 2002 [2]. It is interesting to note that there are more active cigarette smokers in China than there are people in the United States. The full effect of the worldwide tobacco epidemic is yet to come.

In recognition of the importance of lung cancer in the population and with the rise of evidence-based medicine as a basis for diagnosing and managing those afflicted, in the year 2000, the American College of Chest Physicians commissioned the development of Evidence-based Guidelines on the Diagnosis and Management of Lung Cancer. The goal was to assist physicians in achieving the best possible outcomes given the knowledge and capabilities available at the time. The size of the task was daunting but the goal was laudable and the guidelines were successfully published as a supplement to *Chest* in January of 2003 [3].

Fortunately, the pace of discovery in the diagnosis and management of lung cancer has quickened. As a result, the College found it prudent to commission the development of a second edition of the Guidelines. The second edition was published as a supplement to *Chest* in September of 2007 [4]. The Guideline supplement is the result of the efforts of over 100 voluntary faculty and College staff.

The Guideline document provides 260 of the most comprehensive evidence-based recommendations related to lung cancer prevention, screening, diagnosis, staging, and treatment (surgical, medical, and radiation). The Guideline recommendations emanated from a systematic review, evaluation, and synthesis of the published literature. The recommendations were formulated, reviewed, and approved by nearly 100 multidisciplinary panel members, including pulmonologists, medical oncologists, radiation oncologists, thoracic surgeons, pathologists, nurses, internists, epidemiologists, and healthcare researchers. A number of the recommendations have changed in the second edition, either slightly or completely, based on a review of the literature published since the first edition. It is very likely that some recommendations will be different in a possible third edition.

A few recommendations are worth mentioning. For example, a number of studies have confirmed a small but significant increase in five year survival when adjuvant chemotherapy is given to selected post-surgical patients [5]. A discussion with the patient of the pros and cons of adjuvant chemotherapy is recommended for some categories of fully resected patients with non-small cell lung cancer.

Targeted chemotherapy has been shown to provide a significant mortality benefit in selected clinical situations. For example, bevacizumab, when added to carboplatin and paclitaxel as first line chemotherapy, provided a 2 month increase in median survival (10.2 months vs. 12.5 months, $p = 0.0075$) [6]. Erlotinib, when given to patients who failed first line treatment provided a 2 month increase in survival (4.7 vs. 6.7 months, $p < 0.0001$) [7]. It is hoped that by the time for the third edition of these guidelines, the promise of molecular oncology, pharmacogenomics, and personalized cancer therapy will be more apparent.

New chapters have been included in the second edition reflecting the feedback received after the first edition. Chapters on Bronchioloalveolar Carcinoma, Integrative Oncology, and Special Topics in Pathology are welcome additions to the comprehensive Guidelines. The maturation of several newer diagnostic modalities such as endoscopic ultrasound-guided biopsy, endobronchial ultrasound-guided biopsy, and positron emission tomography permit them to be integrated into diag-

Correspondence to:

Professor of Oncology and Medicine, W. Michael Alberts, MD, MBA, FCCP, Chief Medical Officer, H. Lee Moffitt Cancer Center Lee Moffitt Cancer Center, Department of Interdisciplinary Oncology, University of South Florida College of Medicine, 12902 Magnolia Drive, Tampa, FL 33612, USA, phone: 813-979-3067, fax: 847-682-2229, e-mail: michael.alberts@moffitt.org

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nostic recommendations and algorithms. A broadly expanded chapter on the evaluation of the solitary pulmonary nodule will be of value to the clinician. The Guidelines include a new algorithm for the evaluation and management of the solitary pulmonary nodule.

Controversial issues, such as Lung Cancer Screening are addressed and extensively discussed. Observational data has been published suggesting that low dose computed tomography screening can identify lung cancers when they are small and predominantly Stage I [8]. It is hoped that the randomized controlled trials currently underway will provide better evidence relating to the important issue of mortality benefit. The Guidelines recommend that low dose computed tomography not be used to screen for lung cancer except in the context of a well-designed clinical trial.

The Guidelines recommend against the preventive use of several common supplements and medications. For example, the guidelines strongly recommend against the use of beta-carotene and retinoids and do not recommended the use of Vitamin E and aspirin in a preventive setting.

While not potentially curative, for the first time, the Guidelines have included recommendations on mind-body modalities as part of a multimodality approach to reduce the anxiety, mood disturbances, and chronic pain associated with lung cancer. Massage therapy is recommended for patients who are experiencing anxiety or pain, while acupuncture is suggested for patients experiencing fatigue, dyspnea, chemotherapy-induced neuropathy or nausea.

In closing, it is important to emphasize that the effort evidenced in this publication would not be necessary but for the real culprit, namely tobacco and tobacco products. Tobacco use is the leading cause of preventable death in the United States and much of the world. Half of regular smokers die prematurely of a tobacco-related disease [9]. While lung cancer may develop in never smokers, cigarette smoking accounts for approximately 90% of all lung cancer cases in the United States and other countries where cigarette smoking is common [10]. Not to minimize the efforts of clinicians and clinical researchers, but it is clear that lung cancer is largely a preventable disease. Elimination of tobacco use is the single most effective method available to address the dismal statistics associated with lung cancer.

The American College of Chest Physicians hopes that the updated second edition of the Lung Cancer Guidelines will prove helpful to physicians and their patients. The comprehensive set of recommendations and the full text of the Guideline document may be accessed via the ACCP web site (<http://www.chestnet.org>). We invite you to use the Guidelines for the betterment of your patients.

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