Specialists Reject CT for Lung Cancer Screening

BY ROBERT FINN
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In a controversial move, the American College of Chest Physicians has formally recommended against the use of low-dose helical CT scanning for general lung cancer screening, even in high-risk populations. The ACCP also recommended against the use of serial chest radiographs and sputum cytologic evaluation to screen for the presence of lung cancer.

“The evidence isn’t available to show that low-dose CT screening provides a mortality benefit,” Dr. W. Michael Alberts said in an interview. Dr. Alberts, the chief medical officer of the H. Lee Moffitt Cancer Center and Research Institute in Tampa, Fla., chaired the ACCP committee that developed the guidelines. “Because there’s a very real potential for harm, it’s going to be important to prove or show a mortality benefit prior to recommending screening with a low-dose CT scan.”

The second edition of the college’s “Diagnosis and Management of Lung Cancer” includes 260 guidelines, three of which are related to lung cancer screening. It was published as a supplement to the September 2007 issue of the Journal of the American Medical Association.

The screening guidelines were developed by a subcommittee headed by Dr. Peter B. Bach of the Memorial Sloan-Kettering Cancer Center, New York. Although acknowledging that low-dose CT scanning remains the most promising of the lung cancer screening techniques, the guideline authors maintain that—even though the existing data do suggest that low-dose CT increases the rate of detection of early-stage lung cancers—such CT screening fails to reduce the number of late-stage lung cancers or the risk of dying from lung cancer. They suggest that this may be because many of the additional cancers detected are small, indolent cancers, which leads to unnecessary invasive procedures that carry a cost in morbidity and mortality.

The subcommittee’s analysis includes a theoretical model of the time it takes for a given nodule to double in size. They estimated that the doubling time of lung nodules is approximately 40-70 days, whereas research shows that the doubling time of early cancers identified by CT scanning ranges from 149 to 813 days.

“As best I know, this is the first time that anyone has tried to make a public health policy statement on screening based upon a theoretical consideration of nodule doubling time,” said Dr. James L. Mulshine of Rush University Medical Center, Chicago, in an interview. “This is a totally usable tool, and I’m not the first to get evidence-based analysis of the screening service.”

“The recommendations weren’t based on that at all,” Dr. Bach responded in an interview. Instead, he said, the model was intended to provide one possible explanation for the fact that studies have so far failed to demonstrate that screening leads to demonstrable improvements in mortality. Dr. Mulshine said that some studies were omitted from the analysis unfairly. The guideline authors also noted that other studies selectively highlight deaths at the end of the screening guidelines. Since 2006, the guideline committee has been aware of a $160,000 in funding from General Electric Co., which makes CT scanners, and grants from other sources. Dr. Mulshine, who has published extensively on his lung cancer screening research, was coauthor of an influential 2005 review article (N. Engl. J. Med. 2005;352:2714-20).

He participates in the International Early Lung Cancer Action Program.

Dr. Mulshine acknowledged the lack of persuasive evidence from double-blind studies showing reduced mortality related to lung cancer screening. One such study may be completed as early as 2009, but possibly as late as 2011. Data from another study won’t be available for another 2 years or so after that.

“We all hope that the randomized, controlled trials will show a mortality benefit,” Dr. Alberts said. “We’d like to have that outcome, at which time maybe low-dose CT scanning should be recommended. But at this time, the evidence is not available, and there is potential evidence that it may be harmful. As a result, we can’t in all good conscience recommend CT scanning at this point.”

But Dr. Mulshine noted that while waiting for the results of those randomized trials, 160,000 Americans die every year from lung cancer, in part because most lung cancers are not diagnosed until it’s stage III or IV. And he pointed to data showing that morbidity and mortality from diagnostic procedures conducted as a result of screening are extraordinarily low in “centers of excellence.” Furthermore, the last 5 years have seen a significant improve ment in noninvasive procedures, improvements that are likely to continue if more research is done in this area.

But for Dr. Len Lichtenfeld, deputy chief medical officer of the American Cancer Society, “the issue isn’t diagnostic procedures. It’s the morbidity and mortality from subsequent surgery that concerns me.” ACS does not recommend routine CT screening for lung cancer at this time. However, “understanding that some people will nonetheless want to do CT scanning, they should have a careful discussion with their doctor regarding the potential risks that could result.”

The U.S. Preventive Services Task Force states that there is insufficient evidence to recommend for or against lung cancer screening.

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DR. ALBERTS

In addition to the three recommendations on lung cancer screening, the ACCP has issued 257 recommendations on the prevention, diagnosis, and treatment of lung cancer.

The ACCP classifies its evidence-based guidelines as strong (grade 1) or weak (grade 2) based on a balance of risks, benefits, burdens, and costs. The college also classifies the quality of evidence as high (grade A), moderate (grade B), or low (grade C) based on study design, consistency of results, and directness of the evidence.

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Other Points Covered by the Guidelines

Other points covered by the guidelines include the following:

◆ Fifteen of the guidelines deal with complementary therapies and integrative oncology. The guidelines recommend mind-body modalities to reduce anxiety, mood disturbances, or chronic pain (grade 1B), massage therapy for anxiety or pain (grade 1C), as long as it does not involve deep or intense pressure near cancer lesions or anatomical distortions (grade 2C), and acupuncture for poorly controlled pain or for side effects such as neuropathy or xerostomia (grade 1A) and for nausea and vomiting (grade 1B).

◆ However, the guidelines recommend against therapy based on putative manipulation of bioenergy fields (grade 1C), electrostimulation wristbands for nausea and vomiting (grade 1B), and botanical agents in patients who either fail or decline antitumor therapies except in the context of clinical trials (grade 1C).

In addition, physicians should specifically ask all patients with lung cancer about their use of complementary and alternative therapies (grade 1C).