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Cary A. Presant & Donald Kaiserman

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# Screening for Lung Cancer: A New Cancer Control Program for the 21st Century

by Cary A. Presant, M.D., F.A.C.P., and Donald Kaiserman, M.D.

**T**his year it is expected that 355,000 Americans will be diagnosed with lung cancer and 165,000 of them will die from this disease. Over the course of a lifetime, there is a 1 in 12 chance of having lung cancer for men and 1 in 19 for women. It is the most common fatal cancer in both sexes.

Recent advances in chemotherapy and multi-modality therapy have increased the two-year and five-year survival rates in stage III and IV lung cancer. Despite this good news, the worldwide survival rate from lung cancer is only 14 percent. Thus, controlling the lung cancer problem in any community requires advances in the total management of lung cancer from prevention to diagnosis and treatment.

## THE JAPANESE AND NORTH AMERICAN EXPERIENCES

In 1992 Japanese investigators began using spiral CT scans to detect lung nodules. That same year lung cancer screening studies were

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*Cary A. Presant, M.D., F.A.C.P., is president of California Cancer Medical Center, in West Covina, Calif., and chairman of the Los Angeles Oncologic Institute, Los Angeles, Calif. Donald Kaiserman, M.D., is managing principal, Valley Imaging Partnership, West Covina, Calif.*

## Healthy Lungs: A Model Community Program

**I**n the San Gabriel Valley (a large section of Los Angeles county), we have developed a model community program for lung cancer screening. The "Healthy Lungs Program," as it is called, was implemented in January 2000.

The premise guiding the development of this model community program was that there had to be a partnership between clinicians and radiologists to allow this program to operate effectively. The oncologists at the California Cancer Medical Center and the radiologists and administrators at Valley Imaging Partnership (VIP) entered into the development of a community lung cancer screening program called the "Healthy Lungs Program." This program depended on developing screening and treatment protocols, addressing payment concerns, organizing a treatment team, building a prevention component, and addressing the problems of marketing a new type of screening program.

Patient eligibility was defined as current smokers, former smokers, and/or passive smokers older than age 40. A mechanism was established for patients to refer themselves, or for physicians to refer patients directly to VIP for the non-enhanced spiral CT scan.

Standardized reports were developed for communication to the patients; conventional reports from the radiologist's interpretation of the spiral CT scans were sent to the patients' referring physicians. A special mechanism was developed for referring patients to specialists for follow up or for recommending referrals to the attending physician.

To develop a complete panel of specialists, who could provide the follow up for any abnormalities, community physicians were recruited to be on specialty panels. The panel included all willing thoracic surgical oncologists who could perform thoracoscopic resection of lung nodules and/or lobectomies or wedge resections as needed. The panel also included pulmonologists for evaluation of symptoms as well as oncologists to follow up on the diagnosis of cancer. A psychologist was recruited to consider behavioral modification support for patients who were inveterate smokers and who had been unsuccessful in quitting smoking by other methods.

## PAYMENT CONCERNS

One of the major concerns of patients was whether bills for the CT scan would be covered by their health care insurance. When

patients had symptoms (a history of shortness of breath, coughing, hemoptysis, chest pain, or wheezing), we believed that the insurance company could legitimately be billed for the spiral CT scan. However, in the absence of such symptoms, it was unlikely that insurance would pay for the use of a screening spiral CT scan for a totally asymptomatic individual. In these circumstances, VIP developed a reduced payment for the spiral CT scan (non-contrast enhanced) and the medical interpretation, as well as the communication to the patient of the recommendations for lung cancer prevention.

At the initiation of this model program, most participants in the screening program considered the reduced price reasonable.

#### **LUNG CANCER PREVENTION: DEVELOPING A PROGRAM**

To provide maximum benefit to patients, a program was developed for lung cancer prevention. The most important component was smoking cessation (including medical management as well as support groups). In addition, patients were advised about the possible beneficial effects of selenium, and possibly tocopherol and folic acid.

This program was described to

the patients in a brochure, which included a recommendation to consult with their own physicians regarding the use of these treatments or to request prescriptions to implement a smoking cessation program.

For this type of prevention program we considered marketing to be very important. The partnership of VIP and California Cancer Medical Center approached primary care physicians and specialists such as pulmonologists and oncologists to urge them to refer appropriate patients to the Healthy Lungs Program.

In addition, information was sent to business owners in the region, service organizations, community organizations, hospitals, and physicians for referral of their employees, friends, and associates. Our marketing efforts included brochures as well as publication of program information in the California Cancer Medical Center newsletters and on its web site. The program was also promoted at tumor boards and medical meetings.

#### **INITIAL RESULTS AND RECOMMENDATIONS**

In the first four months of the program, two likely lung cancers

have been identified. Although physician response to the program has been slow (since practice patterns are somewhat resistant to change), patients participating in the program have been enthusiastic.

We recommend that community and institutional cancer centers begin to consider new approaches to control lung cancer. If physicians are comfortable with implementing an inexpensive technology that has preliminary data suggesting benefit (but still awaiting confirmation of large randomized clinical trials), spiral CT scanning programs can be easily developed.

Our experience suggests that the time frame for the development of a program is approximately six months. Protocols, which have been developed in other centers, can be easily modified to provide satisfactory programmatic direction.

For additional information about the "Healthy Lungs Program," contact the Valley Imaging Partnership and/or California Cancer Medical Center at 626-856-5858.

—Cary A. Presant, M.D., F.A.C.P.

—Donald Kaiserman, M.D.

initiated in Gunma University Hospital, National Cancer Center Hospital (Tokyo), Shinsu University Hospital (Matsumoto), and Osaka Medical Center. These studies were conducted to determine whether the use of a spiral CT scan could increase the detection of curable lung cancer compared to chest X-ray and sputum cytology, the previous "usual" screening modalities in Japan (and in the United States). Results clearly indicated that the rate of detection of lung cancer was increased 300 to 900 percent by the use of spiral CT scans.<sup>1</sup> Although many non-malignant nodules were also observed, most of the lung cancers diagnosed were stage I and II, the most curable stages of lung cancer.

Studies have also been conducted at universities in the United States and Canada. Results of the pilot experience at the Mayo Clinic and of the ELCAP study conducted at New York University, Cornell, and McGill have been published. Both studies indicated that spiral CT scans could be used to detect small lung nodules. These lung nodules often were lung cancer, and there was substantial evidence for down-staging of lung cancer (greater frequency of detection of lung cancer at early stages). In the ELCAP study, the frequency of detecting lung cancer was 600 percent greater with spiral CT scans compared to conventional posterior-anterior and lateral chest radiographs.<sup>2</sup>

#### TODAY'S DILEMMA

Currently, large-scale trials have not yet been completed to determine whether the use of spiral CT scanning improves overall mortality from lung cancer. The data from non-randomized trials indicate that there is a greater frequency of detection of early-stage lung cancer at stages at which the cure rate is

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higher. However, many health care administrators and public health officials are reluctant to recommend spiral CT scanning until large-scale trials have been performed. These trials would be designed to find out if the rate of survival is higher and if the cost/benefit ratio is advantageous. Such determinations are important since 90 percent of all nodules detected were benign in one study.

Is spiral CT scan screening for lung cancer ready for introduction into communities? Definitive randomized prospective trials will require five to 10 years to complete, and individuals who have been smokers or passive smokers, and who are destined to have lung cancer, will probably develop advanced-stage lung cancer prior to the completion of these trials. Commentary suggests that spiral CT scan-detected cancers are likely to have high cure rates and that overdiagnosis, radiation dose, and cost are unlikely to be significant impediments to applying this technology.<sup>3</sup> Therefore, any attempt to

control the lung cancer problem in the United States might logically be expected to include the use of spiral CT scanning for at least some portion of the population. Which portion can best benefit from spiral CT scanning remains to be determined.

At the same time, many other complementary technologies have become available. Not only do we have spiral CT scans to detect small lung nodules, but we also have seen the recent development of positron emission tomography (PET) scans that can differentiate lung cancer nodules from benign nodules if they are of moderate size.<sup>4</sup> Furthermore, thoroscopic excision of nodules for biopsy and/or therapy is widespread throughout communities. Improvements in cytology are emerging but not yet widely available. Finally, research laboratories are developing improved tests to detect lung cancer by molecular analysis of expectorated cellular samples or bronchoalveolar lavage specimens.<sup>5</sup> ■

#### REFERENCES

- <sup>1</sup> Jone S, Takashima S, Li F, et al. Mass screening for lung cancer with mobile spiral computed tomography scanner. *Lancet*. 1998;351:1242-1245.
- <sup>2</sup> Henschke CI, McCauley DI, Yankejevitz DF, et al. Early lung cancer action project; Overall design and findings from baseline screening. *Lancet*. 1999; 354:99-105.
- <sup>3</sup> Smith IE. Screening for lung cancer; Time to think positive. *Lancet*. 1999;354:86-87.
- <sup>4</sup> Grossman SJ, Griffeth LK, Hanson PC. PET emerges as clinical oncologic tool. *Oncol Issues*. 1999;14(2):16-20.
- <sup>5</sup> Gazder AF, Minna JD. Molecular detection of early lung cancer. *J Natl Cancer Inst*. 1999;91:299-301.