

Lung Cancer Screening Failed to Cut Mortality

BY MARY ANN MOON
Contributing Writer

CT screening dramatically raised the rate of detecting small lung cancers and boosted the frequency of resections by a factor of 10 but did not reduce mortality from the disease in a preliminary study.

These findings must be validated in larger randomized trials. Nevertheless, they "should raise doubts about the premise underpinning CT screening for lung cancer, and also raise concerns about its potential harms if pursued on a wide scale," the study investigators wrote in the *Journal of the American Medical Association* (JAMA 2007;297:953-61).

Such CT screening "should be considered an experimental procedure, based on an uncorroborated premise" that fatal tumors can be detected while they are still localized and potentially curable. This conclusion flies in the face of widespread but unfounded claims that lung CT screening "saves lives" and should be covered by Medicare and other payers, Dr. Peter B. Bach of Memorial Sloan-Kettering Cancer Center, New York, and his associates noted.

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They assessed the effect of CT screening using data from three separate studies conducted at the Istituto Tumori in Milan, Italy; the Mayo Clinic in Rochester, Minn.; and the Moffitt Cancer Center in Tampa, Fla.

All 3,246 subjects had a history of smoking. They were screened and then followed for a median of 3.9 years.

The researchers calculated subjects' expected risks of a lung cancer diagnosis and of lung cancer death, based on statistical models widely used for that purpose.

"Far greater numbers" of subjects were diagnosed as having lung cancer by CT screening than would have been diagnosed without screening. When researchers considered the data from all three studies, 144 cases were diagnosed whereas only 44 cases were predicted by the statistical model, raising the rate of cancer diagnoses by a factor of 3.2, Dr. Bach and his associates said.

Based on CT findings, 109 lung cancer resections were performed, when only 10.9 were predicted by the model, raising the rate of surgery 10-fold.

However, "there was no evidence that CT screening reduced the risk of death due to lung cancer in any of the studies individually or combined."

"There appears to be neither a meaningful reduction in the number of advanced cancers being diagnosed nor a reduction in the number of individuals who die of lung cancer," the investigators said.

The 10-fold increase in resections served only to excise tumors that were unlikely to cause clinically significant disease or death.

Such thoracic surgeries "may be insufficiently beneficial to justify the resulting morbidities," given that postoperative mortality after lung cancer resection averages 5% per year in the United States, "and the frequency of serious complications ranges from 20% to 44%," they added.

In an editorial comment accompanying this report, Dr. William C. Black of Dartmouth-Hitchcock Medical Center, Lebanon, N.H., and Dr. John A. Baron of Dartmouth Medical School, Hanover, N.H., said that these findings present a

stark contrast to those of the I-ELCAP study (International Early Lung Cancer Action Program) published 6 months earlier (*N. Engl. J. Med.* 2006;355:1763-71). The I-ELCAP investigators concluded from their findings that CT screening in populations at risk for lung cancer could prevent 80% of lung cancer deaths.

The study by Bach et al. more directly addresses the population effect of CT screening than does the ELCAP study, Dr. Black and Dr. Baron commented (*JAMA* 2007;297:995-7). ■



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