

Embargoed until 8:00 a.m. CT, Thursday, October 30, 2014

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Symposium Press Office
October 30-31, 2014
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Patients at high-risk for lung cancer are more likely to receive screening when primary care provider is familiar with guideline recommendations

Results of more than 200 primary care providers indicate knowledge gap

Chicago, October 30, 2014—Patients at high-risk for developing lung cancer are more likely to receive low-dose computed tomography (LDCT) screening when their primary care provider is familiar with guideline recommendations for LDCT screening for lung cancer, according to research presented today at the 2014 Chicago Multidisciplinary Symposium in Thoracic Oncology. The Symposium is sponsored by the American Society of Clinical Oncology (ASCO), the American Society for Radiation Oncology (ASTRO), the International Association for the Study of Lung Cancer (IASLC) and The University of Chicago Medicine.

Lung cancer is the second most commonly occurring cancer and the leading cause of cancer-related death for both men and women in the United States. The use of LDCT screening for high-risk individuals has been recommended by several national health care organizations including the American Lung Association, the American College of Chest Physicians and the U.S. Preventive Services Task Force (USPSTF). High-risk patients, according to the December 2013 “Screening for Lung Cancer: U.S. Preventive Services Task Force Recommendation Statement,”

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include adults aged 55 to 80 years, who have a 30 pack-year smoking history and who currently smoke or have quit within the past 15 years. Research has demonstrated that LDCT screening can lead to earlier diagnosis of lung cancer thereby reducing lung cancer-specific mortality by 16 percent and increasing overall survival.

An online survey was sent to 488 primary care providers, including physicians, physician assistants and nurse practitioners, affiliated with the Wake Forest Baptist Medical Center in North Carolina, to identify their knowledge of, practice of and attitudes about lung cancer screening. The survey measured the provider's use of lung cancer screening tests in the past year; the perceived effectiveness of LDCT screening in reducing lung cancer-specific mortality; knowledge of LDCT consensus guidelines; perceived barriers to LDCT screening; and interest in further education about LDCT screening for lung cancer.

Sixty percent (293) of the primary care providers responded. Of those respondents, 212 primary care providers cared for patients older than age 40 in the past year and were eligible for the study. Twenty-one percent (45) of respondents ordered a chest X-ray for lung cancer screening, and 12 percent (25) recommended LDCT for lung cancer screening, with an additional 3 percent (6) ordering sputum cytology (analysis of mucus from the lungs and airways).

The survey results showed that 48 percent (102) of respondents knew three or more of the six guideline components for LDCT screening, including who to screen, the recommended screening intervals and when to start or stop screening. Twenty-four percent (51) of providers that responded did not know any of the guideline components. Logistic regression analysis determined if providers' knowledge of national guidelines influenced LDCT utilization. Providers who knew three or more of the guideline components were more likely to order LDCT screening for individuals at high-risk for developing lung cancer (Odds Ratio 5.0, 95 percent 1.9-12.9). Eighty percent (170) of the primary care providers responded that they were interested in more education about lung cancer screening.

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Of the eligible respondents, 30 percent (64) were unsure of the effectiveness of LDCT in reducing cancer mortality, and none of these providers recommended LDCT for lung cancer screening for their patients.

The most commonly perceived barriers to LDCT screening according to survey respondents were patient cost (87 percent, n=184); potential harm from false positive findings (83 percent, n=176); patients' lack of awareness (81 percent, n=172); potential harm from incidental findings (81 percent, n=172); and no insurance coverage (80 percent, n=170).

"The results of this survey highlight an essential need for provider education on the effectiveness of low-dose CT screening for lung cancer, on lung cancer screening guideline recommendations and the potential benefits and harms of screening," said Jennifer Lewis, MD, lead study author and an assistant chief of medicine in the Department of Internal Medicine at Wake Forest Baptist in Winston-Salem, North Carolina. "It is also important to provide additional education for patients so that they can participate with their primary care provider in making informed decisions about lung cancer screening."

The abstract, "Low-dose CT Lung Cancer Screening Practices and Attitudes among Primary Care Providers at an Academic Medical Center," will be presented in detail during a scientific session at 8:00 a.m. Central time on Thursday, October 30, 2014. To speak with Dr. Lewis, please call Michelle Kirkwood on October 30 – 31, 2014, in the ASTRO Press Office at the Chicago Marriott Downtown Magnificent Mile at 312-595-3150, or email michellek@astro.org.

The 2014 Chicago Multidisciplinary Symposium in Thoracic Oncology will provide a clinically relevant, multidisciplinary update on the scientific progress in treating thoracic malignancies. The symposium brings together physician specialists and practicing clinicians of the multidisciplinary care team to discuss the evolving management of thoracic cancers. The Symposium integrates scientific abstract presentations with accompanying discussions, poster abstract presentations, as well as "challenging case" presentations in interactive tumor board-style forums. The two keynote speakers for the Symposium are Kenneth Rosenzweig, MD, FASTRO, of Mount Sinai School of Medicine in New York, and Corey J. Langer, MD, of Abramson Cancer

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Center in Philadelphia. Dr. Rosenzweig will discuss the use of mutational analysis to guide systemic therapy; and Dr. Langer will review the cutting edge, lung cancer research presented at recent national meetings – ASCO, ASTRO and STS (Society of Thoracic Surgeons).

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**2014 Chicago Multidisciplinary Symposium in Thoracic Oncology
News Briefing, Thursday, October 30, 2014, 7:00 a.m. Central time**

Scientific Session: Thursday, October 30, 2014, 8:00 – 9:30 a.m. CT, Grand Ballroom I-III, Chicago Marriott Downtown Magnificent Mile

13 Low-dose CT Lung Cancer Screening Practices and Attitudes among Primary Care Providers at an Academic Medical Center

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Purpose/Objective(s): Low-dose computed tomography (LDCT) screening reduces lung cancer-specific and overall mortality. National organizations endorse LDCT, but successful implementation depends on referrals by primary care providers (PCPs). We sought to assess lung cancer screening use and potential barriers of LDCT use among PCPs.

Materials/Methods: In late 2013, we sent an online survey to all PCPs at a large academic medical center. The survey assessed: use of lung cancer screening tests in the past year; perceived effectiveness of LDCT screening in reducing lung cancer-specific mortality; knowledge of LDCT consensus guidelines (screen annually, begin age 50 or 55, end age 74, 20 or 30 pack years, current and former smokers, not second-hand smoke only); perceived barriers to LDCT screening; and interest in further education about LDCT. We used logistic regression to examine if guideline knowledge predicted LDCT utilization. Ratings of LDCT as very or moderately effective compared to perceived effectiveness of other screening modalities were compared using McNemar's test.

Results: The response rate was 60% (293/488); eligible responders included 212 who provided primary care to patients > age 40 in the preceding year. Few PCP's reported ordering lung cancer screening examinations, including chest x-ray (21%), LDCT (12%), and sputum cytology (3%). Almost one-half (48%) of providers knew ≥ 3 of 6 guideline components for LDCT screening; 24% did not know any guideline components. Providers who knew > 3 guideline components were more likely to order LDCT (OR 5.0, 95% 1.9-12.9). Many providers (30%) were unsure of the effectiveness of LDCT in reducing cancer mortality; none of these providers had ordered LDCT. More PCPs rated mammography, colonoscopy, and Pap smear as very or moderately effective than they did LDCT (all p-values < 0.0001). The most commonly perceived barriers to LDCT screening were patient cost (87% major or minor barrier), potential harm from false positive findings (83%), patients' lack of awareness (81%), potential harm from incidental findings (81%), and no insurance coverage (80%). Most PCPs (80%) were interested in further lung cancer screening education.

Conclusions: LDCT lung cancer screening is an uncommon practice at an academic medical center despite guideline recommendations. Furthermore, PCPs report ordering chest x-ray, a non-recommended screening test, more often than LDCT. Cost, potential harm, and patients' lack of knowledge were the most commonly perceived barriers. However, PCP knowledge of LDCT guidelines was strongly associated with ordering LDCT. Educational interventions are critical to increasing LDCT screening and should specifically address effectiveness, guideline recommendations, cost, and potential harms.

Author Disclosure Block: J. Lewis: None. W.J. Petty: None. J.A. Tooze: None. D.P. Miller: None. C. Chiles: None. A.A. Miller: None. K.E. Weaver: None.

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