RESEARCH LETTER

Computed Tomographic Screening for Lung Cancer: Current Practice Patterns at Leading Academic Medical Centers

Methods | A survey was sent via e-mail in March 2013 to thoracic radiology division chiefs at leading US AMCs, which were identified from the 2012 to 2013 US News & World Report overall ranking of best hospitals (n = 17), top 10 cancer centers, and top 10 pulmonology centers. This source was selected because of its use of data from a variety of reputable sources. From the 37 listings, 21 unique sites were identified (eTable 1 in Supplement). Thirteen sites (62%) had participated in prior multicenter lung cancer screening trials. Institutional review board (IRB) approval and informed consent were waived by our institution’s IRB director of operations on the basis of the anonymous nature of this survey and the absence of personal protected health information.

The survey (eTable 2 in Supplement) began by inquiring whether the respondent’s site currently offered lung cancer screening and then went on to ask about a variety of screening practices.

Results | Nineteen recipients completed the survey (90% response rate), including 15 sites with a current CT screening program.

Most sites had similar patient selection and referral policies. Eleven of 15 active screening sites (73%) use the NLST entry criteria, and the remaining 3 offer screening to any patients who have participated in shared decision making with a clinical physician (Box). Eleven sites (73%) require a referral from a clinical physician.

The most common self-pay charge was in the range of $300 to $400, reported by 10 of 15 respondents (67%). One site (7%) charges more than $400, whereas 3 (20%) charge between $151 and $299 and 1 (7%) charges $150 or less.

Discussion | Our survey results show a high level of uniformity for inclusion of a smoking cessation program. However, there is less uniformity in other parameters, particularly technical elements such as radiation dose that are not covered in most CPGs.

There is a consensus that screening is appropriate for individuals who meet NLST criteria, and 73% of respondents limit screening to this population. Although some guidelines have expanded their recommendations to other populations at risk, only 1 site is using these criteria. Interestingly, 3 sites offer screening to any patients who have undergone shared decision making with their physicians.

Although respondents reported using 3 different nodule management guidelines, they offer a similar approach for nodules smaller than 8 mm in mean diameter. However, for nodules larger than 8 mm, the Fleischner Society guidelines provide a broader range of options than the NCCN guidelines.

The number of patients scanned per week was 1 to 5 at 13 sites (87%), 6 to 10 at 1 site (7%), and more than 20 at 1 site (7%). The estimated dose used was less than 1 mSv at 5 sites (33%), 1 to 2 mSv at 7 sites (47%), and 2 to 3 mSv at 2 sites (13%) (to convert to rads, multiply by 0.1) (on the basis of the wording of this survey question, a dose of precisely 2.0 mSv could apply to a survey response of either 1-2 mSv or 2-3 mSv). One respondent did not know the dose.

For nodule management guidelines, 10 sites (67%) use the Fleischner Society guidelines, 2 (13%) use the National Comprehensive Cancer Network (NCCN) guidelines, and 1 (7%) uses NLST guidelines. The remaining 2 sites use a hybrid approach.

Fourteen sites (93%) include a smoking cessation program, which is mandatory at 3 sites for current smokers.

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Thus, the greatest likelihood of management differences is for larger nodules, which are more likely to represent lung cancer than smaller nodules.6

By design, we targeted a focused population of leading AMCs to determine whether there is a consensus of “best practices.” We acknowledge that our results may not be representative of all AMCs or of other practice types offering screening in the community setting. In addition, although AMCs are generally early adopters of new practices, we acknowledge that the recent publication of CPGs may have contributed to the lack of uniformity that we observed for some screening practices.

In summary, the lack of uniformity in screening practices reported by leading AMCs suggests the need for formalized radiology guidelines for CT screening for lung cancer. Such guidelines should place primary emphasis on the technical and logistical aspects of screening that are not covered by currently available CPGs. These issues will be addressed in a practice guideline for radiologists that is being developed jointly by the American College of Radiology and the Society of Thoracic Radiology.

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Conflict of Interest Disclosures: None reported.

Correction: This article was corrected online March 10, 2014, for an error in a unit conversion factor.


Thyroid Function Testing in Patients With Newly Diagnosed Hyperlipidemia

Hypothyroidism is present in 1.4% to 13% of patients with hyperlipidemia.1 Overt hypothyroidism is a secondary cause of hyperlipidemia and associated coronary heart disease.2 Cholesterol profiles may be improved by treating overt hypothyroidism.

Current guidelines from the National Cholesterol Education Program, the American Association of Clinical Endocrinologists, and the American Thyroid Association recommend screening for hypothyroidism in patients with newly diagnosed hyperlipidemia prior to starting a lipid-lowering agent.3-6 It is unclear how well these guidelines are being followed in clinical practice. We performed a retrospective cohort study to determine the prevalence of thyroid function screening in patients with newly diagnosed hyperlipidemia at an inner-city academic medical center (Boston Medical Center [BMC]).

Methods | Boston University Medical Campus’s institutional review board approved the protocol and approved a waiver of informed consent. We conducted a retrospective medical chart review of patients at least 18 years old with a total serum cholesterol level of at least 200 mg/dL or low-density lipoprotein cholesterol (LDL-C) level of at least 160 mg/dL managed at BMC’s general internal medicine or family medicine clinics from 2003 to 2011. Patients who had previously been prescribed lipid-lowering agents or thyroid medications were excluded. (To convert cholesterol and LDL-C to millimoles per liter, multiply by 0.0259.)

Demographic data and the proportion of patients with serum thyroid function testing obtained within about 6 months

Table. Demographics of 8795 Patientsa

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Total</th>
<th>Screened</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Women</td>
<td>4840 (55)</td>
<td>2881 (60)</td>
</tr>
<tr>
<td>Men</td>
<td>3955 (45)</td>
<td>1468 (37)</td>
</tr>
<tr>
<td>Race/ethnicity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>2082 (24)</td>
<td>1204 (58)</td>
</tr>
<tr>
<td>African American</td>
<td>3927 (45)</td>
<td>1837 (47)</td>
</tr>
<tr>
<td>Hispanic</td>
<td>1409 (16)</td>
<td>656 (47)</td>
</tr>
<tr>
<td>Asian</td>
<td>286 (3)</td>
<td>129 (45)</td>
</tr>
<tr>
<td>Native American</td>
<td>17 (0.19)</td>
<td>10 (59)</td>
</tr>
<tr>
<td>Other</td>
<td>938 (11)</td>
<td>442 (47)</td>
</tr>
<tr>
<td>Unknown</td>
<td>136 (2)</td>
<td>71 (52)</td>
</tr>
<tr>
<td>Boston Medical Center clinic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>General internal medicine</td>
<td>7118 (81)</td>
<td>3569 (50)</td>
</tr>
<tr>
<td>Family medicine</td>
<td>1677 (19)</td>
<td>780 (47)</td>
</tr>
</tbody>
</table>

Abbreviations: LDL, low-density lipoprotein; TSH, thyroid stimulating hormone.

* Mean (SD) age, 53 (12) years [range, 18-95 years]. Mean (SD) cholesterol and low-density lipoprotein cholesterol (LDL-C) levels, 242 (46) mg/dL and 185 (29) mg/dL, respectively. Mean thyroid-stimulating hormone (TSH) level, 1.52 mU/L [range, 0.01-30.92]. To convert cholesterol and LDL-C to millimoles per liter, multiply by 0.0259.

a P<.01 for percentage screened for all comparisons.