Blood Testing for Noninvasive Assessment of Pulmonary Nodules

By Daniel T. Layish, MD, FACP, FCCP, FAASM

With the frequent use of CT scans, incidental findings of lung nodules are a common problem. Clearly, some of these lung nodules are eventually found to represent early lung cancers. However, most will wind up being benign. PET scan can be helpful in the evaluation of lung nodules, but only when they are above 10 mm in size. In addition, PET scan is expensive. PET scan does have a false positive rate typically felt to be between 12 and 20%. Bronchoscopy is invasive and may not be helpful in the evaluation of very small lung nodules. In addition, bronchoscopy can result in complications such as bleeding, hypoxia and pneumothorax. CT guided fine-needle aspiration is helpful for peripheral lung nodules. However, this is also invasive and can be associated with complications such as pneumothorax and bleeding. Therefore, it would certainly be helpful to have a blood test that would serve as a tool in the assessment of a patient with a lung nodule found on an imaging study.

There is now a commercially available blood test called Xpresys® Lung. This test uses proteomic technology to measure multiple circulating proteins associated with lung cancer. The blood is analyzed using multiple reaction mass spectrometry. The Xpresys Lung blood test is not affected by age, smoking history, gender, and nodule size or nodule location. It is also not affected by the presence or absence of COPD. Therefore, it provides additional risks stratification above and beyond these clinically evident parameters. When the Xpresys Lung test reveals a high probability of a benign nodule, this may allow the clinician to continue sequential CT monitoring and avoid the need for invasive procedures.

There was a validation study of this technology published earlier this year in the Journal of Thoracic Oncology. This was a retrospective multicenter case control study. Nodules between 8 and 30 mm in size were studied. The researchers found 90% negative predictive value in the study. At this point, the strength of the test appears to be negative predictive value. However, it should be noted that the test has not been evaluated in a prospective study. In addition, it has not been evaluated in a large sample of patients.

Therefore, although the test is commercially available, its role in the diagnostic evaluation of lung nodules remains to be completely defined. Nevertheless, it is an option worth being aware of and hopefully will signal the beginning of a new era in the diagnostic evaluations of lung nodules.

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