

Evaluation of chronic cough – the patient is telling you the diagnosis

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Story from the Front Lines

A man in his 80s presented to clinic for a second opinion and evaluation of chronic cough. His symptoms began several months prior after what was likely a viral upper respiratory illness and had left him with a non-productive cough that was slowly resolving. He had no associated dyspnea and in an attempt to alleviate the symptoms had tried pseudophedrine and fluticasone nasal spray with some improvement. His medical history was notable only for long-standing GERD and numerous siblings who were smokers, some of whom had died of lung cancer. He never smoked.

Prior to presentation he had PFTs which were unremarkable and a chest CT which found scattered non-specific pulmonary nodules less than four millimeters in diameter, slight bronchial wall thickening and distal esophageal thickening versus a small hiatal hernia. When I saw him in clinic his cough was still present, but improving and he brought concerns about the pulmonary nodules and other incidental findings on the CT. Over the course of his visit, it became clear that his GERD had been present for years and was generally well controlled. No unintentional weight loss, night sweats or lymphadenopathy were present to raise the specter of malignancy given his family history for lung cancer. Ultimately we felt he likely had a lingering viral cough with a superimposed cough from GERD given the slight bronchial wall thickening, small nodules more prominent in the dependent regions of his lungs and the esophageal thickening versus hiatal hernia.

The recommendations we provided were largely simple reassurance with two caveats. We suspect his cough will get better in time and as they work to control his GERD, but the non-specific pulmonary nodules and the esophageal abnormalities from his imaging will both need further evaluation. For the nodules, another CT in 12 months and for his esophagus, likely an EGD to evaluate for Barrett's, malignancy or a hiatal hernia.

Teachable Moment

This case highlights several important points. The first follows the adage, "The patient will tell you the diagnosis 80% of the time." Had an adequate history and physical been obtained when first presenting to his physician for his lingering cough, two diagnoses may have been more apparent: post-viral cough and GERD associated cough. Both are common causes of cough and rarely warrant any further procedures or imaging (e.g. PFTs, chest CT). Fortunately, algorithms exist from numerous societies such as the American Thoracic Society and UpToDate to help one with the work-up [1,2]. Often the first diagnostic study recommended is a chest radiograph, which this gentleman did not receive.

With increased use of advanced imaging modalities, numerous incidentalomas are being found necessitating additional imaging and procedures. In a 2012 review of chest CTs and incidental findings, the incidence of incidentalomas ranged from 3-41% [3]. Of 5200 people in a lung cancer screening study,

incidentalomas led to 12 invasive procedures, only 8 ultimately being deemed clinically relevant. Regarding lung nodules, lung cancer screening studies have found nodules on 25-53% of exams. Given the frequency of lung nodules, the Fleischner Society released guidelines regarding management of lung nodules based on size and relative risk for lung malignancy in an effort to limit unnecessary testing and procedures [4]. The gentleman presented in this case will receive another chest CT 12 months after the initial to monitor the non-specific small nodules from his imaging.

Of note, findings of esophageal thickening on CT subsequently prompted referral for an EGD to further examine the distal esophagus abnormalities. Are the benefits of an EGD for GERD in this case in excess of the potential harms? Reported EGD complication rates for cardiopulmonary collapse, esophageal perforation, bleeding and infection are quite low, cited as being fewer than 1-2% of cases, but the severity of complications can range from further procedures and prolonged hospitalization to death [5]. Such downstream procedures, even those with the patient's best interest in mind, are not without potential risk of harm.

In summary, chronic cough is a common complaint and fortunately there are key details one can ascertain from the history and physical that can help guide management without any further diagnostic testing. When the etiology is not clear though, there are several algorithms available to help one decide where to begin, often with a chest radiograph. This case also highlights the importance of following a rational approach to chronic cough as advanced diagnostic procedures and imaging can quickly lead to additional procedures that may put the patient at unnecessary risk for complication.

References

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