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Key Components of the Evaluation of a Patient With Chronic Cough – Diagnostic/Therapeutic Algorithm

Announcer:

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Dr. Blaiss:

Hello, I'm Dr. Michael Blaiss, Clinical Professor at the Medical College of Georgia at Augusta University in Augusta, Georgia. And I'm happy to talk with you today on key components of the evaluation of a patient with chronic cough, diagnostic therapeutic algorithm. Typically, there are many ways that we could classify cough, but what we typically do is classify cough by duration. First is acute cough which is the most common cause of cough, and by definition is a maximum of three weeks. The most common cause as we know is an acute upper respiratory tract infection, though we know we can see acute cough with different rhinitis problems, sinusitis, pneumonia, congestive heart failure, pulmonary embolism, and others. Next is subacute cough, by definition between three to eight weeks. The most common here is that post viral cough where all the other symptoms of the URI are gone but the patient has a lingering cough. But we can also see subacute cough with pertussis, or mycoplasma, or chlamydia pneumonitis. And what we're talking about today are our patients that suffer with chronic cough, which by definition is more than eight weeks.

There are many guidelines that have been published throughout the world as far as workup and management of patients with chronic cough. The one that we tend to follow most in the United States was developed by the American College of Chest Physicians. These are the CHEST guidelines that were published in CHEST in 2018, and I'd like to briefly review those for you today.

We start with an initial assessment of the patient's chronic cough. Extremely important is a very detailed history to try to uncover the possible cause of the condition. We need to know duration of cough. We need to know the different possible triggers of cough. What are their environmental, occupational, travel exposures that may in fact be a contributory factor. We need to know their smoking history. We need to know previous evaluations and treatments that the patient has in fact had. Of course, here we need to know the family history. We need to understand if there have been any medications that the patient may be taking that in fact can cause chronic cough, with the most common being an ACE inhibitor. We need to do a detailed physical examination, more than just the chest, and then a chest radiograph. In our history, we also need to look for red flags. These are conditions that may suggest some severe underlying condition that in fact is causing the patient's chronic cough. Things like hemoptysis, or if the patient is a smoker with a new cough, or in fact someone with a long pack-year history who in fact now develops a cough. Hoarseness. Systemic symptoms like fever and weight loss could suggest a malignancy. Trouble swallowing when eating or drinking could be some type of neurogenic problem or esophageal malignancy. And of course, any patient with an abnormal respiratory exam and/or an abnormal chest x-ray coinciding with the duration of cough. Now, what do we do if in fact we have an immunocompetent patient? Their history is negative. There are no red flags. They have a normal physical exam. They have a normal chest x-ray. Then there are four common causes that we need to evaluate that may be the cause of their chronic cough. These include upper airway cough syndrome, which is secondary to both allergic and non-allergic rhinitis problems and sinus disease. We should consider sinus imaging, nasopharyngoscopy, allergy evaluation. In many of these

patients, when we're not clear we may use empiric treatment. Here we commonly use a first-generation antihistamine instead of a second-generation antihistamine, as the first-generation antihistamine has an anticholinergic activity which can be very helpful as far as drying up any postnasal drip. Next is asthma, and with asthma, we want to evaluate with spirometry, bronchodilator reversibility, bronchoprovocation challenge, we may need to do an allergy evaluation, or in fact empiric treatment. And here, we usually would do a burst of oral cortical steroids and wean the patient over a 10 to 14-day period. The third condition is non-asthmatic eosinophilic bronchitis. This is an eosinophilic airway disease, but unlike asthma, does not show bronchial hyperreactivity or bronchial constriction as we see with asthma. We can evaluate this with sputum eosinophilia, a fractional exhale nitric oxide, though both of these could be in fact elevated with asthma, allergy evaluation. And we can use the same empiric treatment as we do with asthma, and that is a burst of oral cortical steroids. And the last one to consider is gastroesophageal reflux disease. We need to think in the history, is there a correlation between the patient's cough and reflux symptoms, like heartburn or sour taste in the mouth. It's important here that we do more than just acid suppression for a minimum of a couple of months, but also lifestyle changes.

We may want to go to further investigations depending upon what we find from there in the patient. We may want to do further GI evaluation or pulmonary evaluation, or cardiac evaluation to help find out what may be causing the patient's chronic cough. But what about the patients in fact, that in fact have chronic cough? We've done an extensive evaluation. Let's say we found a possible cause, let's say asthma. We treat the condition, but unfortunately, the cough continues to persist. In these patients, we define these as refractory chronic cough. Or what if we do this complete evaluation that I've mentioned and we find absolutely no cause, none of the empiric treatments helped? Then these patients in fact, would be called unexplained chronic cough. These conditions probably overlap as a type of cough hypersensitivity. They tend to occur more often in women than in men, about three times more often, and they tend to peak in the fifth and six decades of life.

Announcer:

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