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Chronic Cough

Chronic cough is usually defined as cough lasting more than six to eight weeks. The four most common causes of chronic cough are postnasal drip, asthma, postinfectious bronchial inflammation and gastroesophageal reflux. Analysis of medical literature suggests that 34% of chronic cough is due to postnasal drip, 27% is due to asthma and 18% is due to gastroesophageal reflux. In any given patient a combination of one or more of these factors may be present.

About 4 - 5% of patients who take ACE inhibitors (a group of blood pressure loweing medications) develop chronic cough. Other causes include chronic bronchitis (often from smoking), tuberculosis, cystic fibrosis (disorder of mucus production), bronchiectasis (destroyed and dilated bronchial tubes), and cancer of the lung, postinfectious cough (following a viral illness of the upper respiratory tract), psychogenic cough (for some motive), habit cough and other miscellaneous causes. In as many as 13% of cases, a cause may not be found even after extensive evaluation.

The initial treatment of patients with cough is often empiric and may involve a trial of nasal sprays, antihistamines, decongestants, asthma medications or stomach acid reducing medications singly or in combination. Allergy skin or blood tests and breathing tests (pulmonary function test) may also be done at the time of initial consultation. If a therapeutic trial is not successful, sequential diagnostic testing including chest radiograph, TB skin test, computed tomography of the sinuses, methacholine challenge test or barium swallow may be indicated.

By using a standard protocol for diagnosis and treatment, 90 percent of patients with chronic cough can be managed successfully in the office. However, in some cases it may take three to five months to determine a diagnosis and effective treatment.

A study of chronic cough in children revealed that the most common causes of chronic cough varied according to age. From birth to 18 months of age, the most common causes were cough variant asthma or an aberrant blood vessel in the chest (innominate artery); from 18 months to six years of age, the most common causes were cough variant asthma and sinusitis; and from six to 16 years of age, cough variant asthma and psychogenic cough were the most common diagnoses.

Between 70 and 90 percent of patients with lung cancer develop cough at some time during the course of the disease, but isolated chronic cough is an infrequent presentation of occult bronchogenic carcinoma. Other signs and symptoms of cancer are usually present in these patients by the time cough appears.

Finally, in pulmonary specialty clinics, a single cause for cough was found in only 41 to 73 percent of patients, two causes were found in 23 to 42 percent of patients and three causes were found in 3 to 17 percent of patients.

The first step is to obtain a good history and perform a physical examination, with the intent of diagnosing a possible cause for the cough and treating any cause found. If the history and physical examination do not suggest a cause or if the treatment instituted is not successful, the second step is to treat the patient for postnasal drip. One investigator found that in 36 percent of patients studied, chronic cough resolved in 2.2 weeks with the use of only antihistamine and decongestant therapy. No further testing was required in this group of patients. Finally, there is no diagnostic standard to confirm or rule out postnasal drip as the cause of cough.

If the cough persists after two weeks of treatment for postnasal drip, the third step is to add therapy for asthma. Therapy for asthma is added rather than substituted for treatment of postnasal drip, based on the theory that there is a 23 to 42 percent chance of the patient having both diseases. Asthma and postnasal drip are the two most common coexisting causes of chronic cough. If there is no response to postnasal drip treatment combined with asthma therapy, step 4 adds treatment for GERD to cover the 3 to 15 percent of patients who have triple disease.

Since it may take several months for GERD to respond to treatment, therapy should be continued in the presence of improvement even if the patient continues to have some symptoms. If the patient responds to therapy, the medications for asthma and postnasal drip may be stopped, sequentially. If symptoms return, the medications are restarted.

If the therapeutic trials for these common causes of chronic cough fail, the patient is evaluated with additional tests. These tests are performed sequentially, seeking the most common causes of chronic cough with the least expensive and least invasive tests. The modes of investigation to consider in this situation are computed tomographic scan of the paranasal sinuses, pulmonary function tests with methacholine challenge, barium swallow, prolonged esophageal pH monitoring, and chest radiography and purified protein derivative skin testing. If all of the above diagnostic tests are negative or treatment is unsuccessful, or both, referral to a pulmonary specialist is necessary.

In one study using this algorithm, patients were seen an average of 3.5 times (range: 1 to 14 visits) over a period of three months (96 days) before a specific diagnosis was made and specific therapy was started. The average time needed to arrive at a successful treatment varied from 92 to 159 days.

ACE inhibitors (ACEIs) can cause chronic cough in 3-4% of patients. The cough usually comes during the first year of treatment with ACE inhibitors but can appear for the first time during subsequent years also. It may take up to 6 weeks for the cough to subside after stopping the ACE inhibitor. We strongly advise against stopping the medication without your doctor's permission. Other medications used in the treatment of hypertension such as Angiotensin Receptor Blockers [ARBs] which are related to ACE inhibitors and calcium channel blockers usually do not cause cough [no more than placebo]. Such medications can be tried by your doctor in place of ACE inhibitors provided there are no medical contraindications for doing so.