

## EDITORIAL

# The etiology of difficult-to-treat chronic cough

**Codrut Sarafoleanu, MD, PhD, Professor of Otorhinolaryngology**  
ENT&HNS Department, “Sfanta Maria” Hospital, Bucharest, Romania



**C**hronic cough has seen a growing frequency – especially in the urban population. In the last 2-3 years, between 10 and 13% of the reasons that determine an ENT consultation are represented by a cough syndrome, lasting several months and with frequent therapeutic failures. Through its annoying or, quite often, harmful nature, chronic cough alters the quality of life.

Acute or chronic cough is a symptom, not a disease. This symptom appears either in a known pathological context or an ignored or obscure one, and represents a response to a physical or psychological aggression in the upper airways. Therefore, the etiology may be multifactorial, the diagnostic difficulties are redoubtable; extensive therapeutic methods may remain without effect in the absence of a proper etiologic diagnosis, so that a series of clinical and paraclinical criteria are necessary in the management of this entity.

Chronic cough represents 8-9% new cases per year at general medicine consultations and 4-5% in the ENT casuistry.

Chronic cough may be considered as such if it has a minimum duration of 8 weeks from the onset.

Chronic cough phenomena were identified in the following situations:

1. Otorhinolaryngological disorders
2. Bronchopulmonary pathology
3. Allergy
4. Cough in patients with heart diseases
5. Cough of gastroenterological etiology
6. Cough in the context of system diseases
7. Cough in neuropsychiatric diseases
8. Cough due to medication

In *otorhinolaryngology*, chronic cough may suggest:

- a symptom of rhino-sinusal suffering with posterior rhinorrhea

- a repercussion of the rhinosinusal chronic pathology on the respiratory tract
- a bronchopulmonary disease associated to rhinosinusal suffering
- simple extraesophageal reflux or in the context of hiatal hernia
- a neglected or undiagnosed allergic suffering
- pharyngolaryngeal tumors
- chronic laryngitis
- laryngeal spasms
- swallowing disorders with false route
- sequelae after tracheal intubation or after tracheostomy
- extrinsic compression of the airways
- tonsillar hypertrophies
- thyroid hypertrophy
- mediastinal adenopathies
- external auditory canal pathology (eczema, inflammation, foreign body) (due to the anastomosis of nerve VII bis with nerve X).

*Chronic cough in the bronchopulmonary pathology* can also appear in one of the following conditions:

- asthma
- smoking
- bronchopulmonary cancer
- chronic obstructive pulmonary disease (COPD)
- pollution - chronic bronchitis
- drug addiction
- bronchiectasis
- Sjogren's syndrome
- atrophying polychondritis
- Horton's disease
- Wegener's disease
- amyloidosis
- pulmonary tuberculosis
- tracheobronchomalacia

**Chronic cough in heart diseases** is found in about 3% of the cases, having as characteristics the onset and worsening during physical effort. It appears in some heart diseases such as congestive heart failure, dyspnea on exertion, orthopnea and tachycardia.

**Chronic cough of gastroenterological etiology**

*Gastroesophageal reflux* (GERD) represents the third leading cause of chronic cough after sinusitis and asthma; this symptom is seen in 39-74% of patients with GERD.

Gastroesophageal reflux disease may represent either the main cause of chronic cough, or an aggravating factor of cough that has also another pathological context, or it may be a maintaining factor of asthma cough or sleep apnea.

The pathophysiological mechanism of cough in GERD can be represented by:

- direct irritation of the cough receptors by macro or micro-aspiration;
- chronic inflammation of the laryngo-tracheal mucosa due to reflux hyperacidity;
- vagal stimulation in the distal esophagus.

Besides GERD, chronic cough of gastroenterological etiology also occurs in:

- esophageal motility disorders
- achalasia and pseudoachalasia
- esophageal stenosis
- eso-tracheal fistulas
- after pharyngo-esophageal surgery
- upper esophageal sphincter insufficiency due to surgery, inflammation or neurological conditions (Parkinson)

**The association chronic cough – systemic diseases** can be found in:

- autoimmune diseases
- Horton's disease

- Hypothyroidism
- Wegener's disease
- collagenosis
- Crohn's disease

For over 350 *drugs*, chronic cough is one of the main side effects (Foucher, 1997). Of these, heart medication (converting enzyme inhibitors – captopril, enalapril; angiotensin antagonists – sartans; beta-blockers, etc.), interferon, inhaled treatment, neuroleptics, antiretrovirals sometimes lead to manifestations of chronic-cough type, which can often be counteracted only by stopping treatment.

**Chronic cough in neuropsychiatric context** may occur in diseases such as:

- polyradiculoneuritis
- epilepsy
- endocranial expansive processes
- Parkinson's disease
- Wallenberg syndrome
- anxiety-depressive syndromes
- simple tics
- tic disorder
- various mental illnesses.

Due to its growing frequency (chronic cough being the third leading cause of visits to the internist) and the wide range of causal factors, to the multitude of health professionals involved (generalist physicians, otorhinolaryngologists, pneumophthysiologists, allergists, gastroenterologists, etc.), as well as to the alteration of patients' quality of life, chronic cough represents an important health problem. The key to successful treatment consists in correct diagnosis, which often requires patience and perseverance both from the doctor and the patient (since it is mostly a diagnosis by exclusion), but also important expenses of investigation and resources from the health system.