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Interrupting a vicious cycle can result in cessation of refractory chronic cough



To the Editor:

Song et al¹ described reflex hypersensitivity as a key trait making chronic cough a distinct disorder rather than a symptom of an underlying clinical problem. In fact, the recognition of chronic cough as a distinct disorder was reported 20 years ago by Haque et al.²

The explanation for reflex hypersensitivity provided by Song et al is the presence of neuronal dysregulation with central sensitization. However, a simpler explanation for cough hypersensitivity causing chronic cough comes from the work of Shapiro et al,³ who demonstrated increased airway epithelium nerve density determined by examining airway mucosa obtained by bronchoscopy in patients with chronic cough who had normal spirometry and chest radiography. In considering that finding, Dr Shapiro opined that, “although increased nerve density may promote development of chronic cough, it is equally possible that nerve growth is a consequence of chronic coughing that contributes to its persistence.” That is consistent with an earlier publication by Irwin et al,⁴ who described the results of airway mucosal biopsies from adults with unexplained chronic cough that demonstrated airway mucosal inflammation. Similar to the comment of Dr Shapiro, he stated: “Our findings suggest that airway inflammation associated with chronic cough may be due to the trauma of coughing itself.”

A vicious cycle then exists whereby incessant coughing causes airway mucosal neuropathic inflammation, which further causes repeated coughing. The lesion caused by coughing is then perceived by the patient as an irritation or tickle that is the nidus for repeated coughing. This severe urge to cough is described by Hilton et al as “the unifying characteristics of patients presenting with chronic cough.”⁵

In looking further for mechanisms and treatment of chronic cough, Dr Charles Creighton’s astute observations in his 1886 book describe, “a habit-cough, -a reflex effect persisting after the cause is gone, or an explosive reflex action of the respiratory mechanism surviving by the power of memory, or an acquired habit of the respiratory Centre,—the treatment of it is to break the habit.”

Chronic unexplained and refractory cough has the characteristics that psychologists call a habit disorder.⁶ Habit disorders are defined by repetitive, involuntary, unwanted behavior that causes distress with physical and social consequences. Chronic unexplained and refractory cough in adults therefore can be a habit cough and has been generally identified as such in children for over 50 years. We therefore agree with Song et al that cough reflex

hypersensitivity is a “treatable trait.” Habit cough, like other involuntary habits, can be treated.⁶ Cessation of cough by suggestion therapy has been described in both children and adults with habit cough.⁷

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Reply to “Interrupting a vicious cycle in order to produce cessation of refractory chronic cough”



To the Editor:

We thank Weinberger et al¹ for their interest in our review of “Cough reflex hypersensitivity as a key treatable trait.”² Indeed, the concept of neuronal hypersensitivity as a primary mechanism of chronic cough has been overlooked for more than decades despite its recognition over a century ago. We agree that, historically, patients with chronic cough have often been dismissed as having psychogenic elements because the attending physician could find no obvious explanation for the coughing; so, “it must be all in the mind.”

The condition that they describe is indeed real. We previously provided a comprehensive description of the condition in a case report of a boy with a disabling cough.³ Habit or honk cough is a disease that predominantly affects adolescent boys, and we hypothesize that it is a form of a vocal tic, which may be treated by suggestion or neuroleptic therapy.

The common disease of chronic cough, often referred to as refractory chronic cough (RCC) is, however, a different condition (Table I). Two large registry studies from Korea and the ERS NEUROCOUGH research consortium have revealed a