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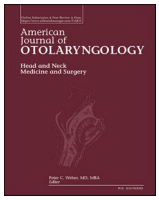

Interrupt a vicious cycle to Cure refractory chronic cough

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Chronic cough can be a debilitating condition with substantial morbidity. Traditional guidelines recognize that chronic cough can be of unknown cause and refractory to treatment but nonetheless suggest extensive testing that increases cost and morbidity without efficacy [1,2]. It is time to think outside the confines of those guidelines. This commentary describes chronic cough that has no physical cause and provides an approach to successful treatment.

Chronic cough is now understood to have a neuropathic origin resulting in what has been called a hypersensitive cough syndrome [3]. Physical causes such as gastroesophageal reflux (GERD) and upper airway cough syndrome/postnasal drip (UACS/PND) are frequently claimed to cause chronic cough but only act as triggers of cough hypersensitivity. Both GERD and UACS/PND are common irrespective of the presence of chronic cough, and most with these conditions do not develop chronic cough.

We know from patient histories that chronic cough without physical cause is often initiated by a common cold. The subsequent perpetuation of cough is explained by the research of Shapiro and colleagues who found bronchoscopically obtained mucosal biopsies from otherwise healthy patients with chronic cough had increased nerve density [4], Dr. Shapiro posited that this nerve growth could be a result of the incessant coughing of these patients. Hypersensitivity from exposed nerve endings perpetuates cough. This aligns with Irwin and colleagues' earlier findings of inflammation in the airway mucosa from young adults with chronic cough [5]. They also indicated that this inflammation could stem from the trauma of coughing itself. Chronic cough thus results from a vicious cycle of mucosal neuropathic inflammation caused by incessant coughing. The resulting irritation, often described as a "tickle," triggers the urge to cough. Hilton and colleagues identified this sensation as a common trait among patients with chronic cough [6].

In 1886, Dr. Charles Creighton described in his book that chronic cough is an effect that persists after the cause is gone [7]. He considered chronic cough as an acquired habit of the respiratory center. Chronic cough has characteristics that psychologists call a habit disorder. Habit disorders are characterized by repetitive, involuntary, unwanted behaviors causing distress and negative consequences [8]. Chronic cough fits this description when it is a repetitive dry daily cough that is absent during sleep,

Habit cough has not been generally recognized in adults. However, adults with unexplained and refractory cough can respond to the same behavioral technique used to successfully treat children with habit cough [9]. I have received many emails from adults who have viewed me providing a child with cessation of cough using a behavioral technique called suggestion therapy, https://youtu.be/l6-fffL7Bh0. Adults exhibit cough characteristics like children with habit cough, a repetitive dry daily cough that is absent during sleep and respond to this form of suggestion therapy. I described 20 such adults in a previous publication [10] and the frequency of being contacted by similar adults has now

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Adults, like children, can experience chronic cough with no physical cause. Suggestion therapy has provided cessation of cough in children with habit cough during direct patient contact [11] by communication via teleconference, https://youtu.be/l6-fffL7Bh0, and by viewing a video of suggestion therapy being provided for habit cough [12]. Hypnosis, which is another form of providing suggestion, has also been shown to rapidly treat habit cough in children [13] but has not yet been demonstrated in adults. Effective techniques used by speech and language professionals perhaps have some commonality with therapy involving suggestion but generally require multiple sessions and the results are variable [14].

How does suggestion therapy cure chronic cough? The explanation can be found in the psychology of suggestion [15]. Suggestion can influence physical sensations like pain and itch [16]. A normal exam, spirometry, and chest x-ray can indicate that a chronic cough is unlikely to be caused by a respiratory disorder. Thus, adults with a habit cough—a repetitive, dry cough absent during sleep—may benefit from suggestion therapy. To eliminate chronic cough in both children and adults, begin with this video, https://youtu.be/l6-fffL7Bh0, Physicians encountering these patients can utilize the art of suggestion as described by Dr. Bernard Berman in the first published description of curing chronic cough by the "art of suggestion." [17] More details are described in a comprehensive review [18].

CRediT authorship contribution statement

Miles Weinberger: Conceptualization, Methodology, Project administration, Supervision, Validation, Writing – original draft, Writing – review & editing. **Ran D. Anbar:** Reviewed and edited. **Dennis Buettner:** Provided organization and validation of data.

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References

[1] Gibson P, Wang G, McGarvey L, Vertigan AE, Altman KW, Birring SS. CHEST expert cough panel. Treatment of unexplained chronic cough: CHEST guideline and expert panel report. Chest Jan 2016;149(1):27–44.
[2] Morice AH, Millqvist E, Bieksiene K, Birring SS, Dicpinigaitis P, Domingo Ribas C, et al. A. ERS guidelines on the diagnosis and treatment of chronic cough in adults and children. Eur Respir J Jan 2 2020;55(1):1901136.
[3] Song WJ, Manian DV, Kim Y, Zhang M, Morice AH. Cough reflex hypersensitivity as a key treatable trait. J Allergy Clin Immunol Pract 2024;16 [S2213–2198(24)01168–1, Epub ahead of print].
[4] Shapiro CO, Proskocil BJ, Li Oppegaard, Blum ED, Kappel NL, Chang CH, et al. Airway sensory nerve density is increased in chronic cough. Am J Respir Crit Care Med 2021;203:348–55.
[5] Irwin RS, Ownbey R, Cagle PT, Baker S, Fraire AE. Interpreting the histopathology of chronic cough: a prospective, controlled, comparative study. Chest 2006;130:362–70.
[6] Hilton E, Marsden P, Thurston A, Kennedy S, Decalmer S, Smith JA. Clinical features of the urge-to-cough in patients with chronic cough. Respir Med 2015;109:701–7.
[7] Creighton C. Illustrations of unconscious memory in disease. London, UK: HK Lewis; 1886. p. 63.
[8] Himle MB, Flessner CA, Bonow JT, Woods DW, Hersen M. Habit disorders. In: Clinicians handbook of child behavioral assessment. San Diego: Elsevier Academic Press; 2006. p. 527–46.
[9] Weinberger M, Hoegger M. The cough without a cause: the habit cough syndrome. J Allergy Clin Immunol 2016;137:930–1.
[10] Weinberger M, Buettner D. Habit cough is a cause of chronic cough in adults. Ann Allergy Asthma Immunol 2023;130(6):808–9.
[11] Lokshin B, Lindgren S, Weinberger M, Koviach J. Outcome of habit cough in children treated with a brief session of suggestion therapy. Ann Allergy 1991;67:579–82.
[12] Weinberger M, Buettner D. Cures of the cough without a cause. Ann Allergy Asthma Immunol 2021;127:381–3.
[13] Anbar RD, Hall HR. Childhood habit cough treated with self-hypnosis. J Pediatr 2004;144:213–7.
[14] Vertigan AE, Haines J, Slovarp L. An update on speech pathology Management of Chronic Refractory Cough. J Allergy Clin Immunol Pract 2019;7:1756–61.
[15] Michael RB, Garry M, Kirsch I. Suggestion, Cognition, and behavior. Curr Dir Psychol Sci 2012;21:151–6.
[16] Peerdeman KJ, van Laarhoven AI, Donders AR, Hopman MT, Peters ML, Evers AW. Inducing expectations for health: effects of verbal suggestion and imagery on pain, itch, and fatigue as indicators of physical sensitivity. PloS One 2015;10:e0139563.
[17] Berman BA. Habit cough in adolescent children. Ann Allergy 1966;24:43–7.
[18] Weinberger M, Buettner D, Anbar RD. A review, update, and commentary for the cough without a cause: facts and factoids of the habit cough. J Clin Med 2023;12:1970.