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Miles Weinberger
Pediatrics
UIHC
Iowa City, IA 52242

Outcome of habit cough in children treated with a brief session of suggestion therapy

Boris Lokshin, MD*; Scott Lindgren, PhD†; Miles Weinberger, MD‡; and Jean Koviach§

Nine patients with habit cough, initially misdiagnosed as asthma, were treated during a period of sustained repetitive symptoms with a brief session of suggestion therapy. Symptoms had previously been present for up to 2 years (median = 2 months). Five had been hospitalized for the cough. Evaluation revealed no physiologic or radiologic abnormality. All patients became symptom free during a 15-minute session of suggestion therapy. During the subsequent week, one remained completely asymptomatic and 8 had transient minor relapses that were readily self-controlled. Seven of the 9 could be contacted for determination of long-term outcome at periods up to 9 years (median 2.2 years) after the session. Six were totally asymptomatic; one had occasional minor self-controlled symptoms. A standardized questionnaire assessing psychologic symptoms at the time of follow-up revealed no somatization nor emotional distress. In contrast to this apparent cure, others have reported extended periods of continued symptoms in the absence of a uniform treatment plan for suggestion therapy even though the correct diagnosis was made. We conclude that the classical habit cough syndrome is amenable to immediate relief and long-term cure in most cases with a single session of appropriate suggestion therapy.

INTRODUCTION

We recently evaluated a 15-year-old girl with a classic pattern of the habit cough syndrome.^{1,2} Specifically, this patient was coughing multiple times per minute during the clinic visit. The cough was the characteristic harsh tracheal cough sounding like a "barking dog" or "barking seal."² She had experienced this intractable coughing for many months, had been subjected to extensive medical evaluation, and had experienced no consistent response to therapeutic

trials including corticosteroids and hospitalizations. The cough stopped during a 15-minute course of suggestion therapy performed by one of the authors (MW) in a manner used previously by him in similar cases. The ease of providing an apparent cure contrasted markedly with the extended duration of exceedingly troublesome symptoms and extensive medical evaluation and treatment previously administered to this and previous patients. There was, accordingly, reason to question the permanency of this "quick fix." We therefore reviewed medical records since inception of our clinical service in 1975 through 1988 for diagnoses of habit cough syndrome and attempted to contact all of those patients to determine subsequent long-term outcome.

METHODS

Patients

The clinical service of the Pediatric Allergy and Pulmonary Division sees predominantly tertiary care referrals of patients from throughout Iowa and Northwestern Illinois. One of the authors (JK) examined approximately 4500 medical rec-

ords of patients seen during the previous 14 years by the clinical service of the Pediatric Allergy and Pulmonary Division and identified nine with a diagnosis of habit cough syndrome in the absence of organic disease. The patients with habit cough typically had harsh nonproductive barking coughs that were loud and particularly irritating to those within earshot. Coughing in all occurred up to multiple times per minute during waking hours. All had uninterrupted coughing with this frequency while waiting to be seen and during the history and physical examination. Symptoms, although generally present while patients attempted to sleep, ceased once actually asleep. Cough generally improved when patients were distracted by vigorous exertion in contrast to organic coughs, which typically worsen on exertion. Most of those with cough had received extensive medical evaluation and treatment, generally for asthma, before referral to our service. Five of the nine with cough had previously been hospitalized in an attempt at more vigorous treatment. Previous treatment had generally included

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* Fellow, Pediatric Allergy & Pulmonary Division; University of Missouri Hospital; DCO-102.13, One Hospital Dr; Columbia, Missouri.

† Associate Professor of Pediatrics, Pediatric Psychology Division, College of Medicine, University of Iowa, Iowa City, Iowa.

‡ Professor of Pediatrics; Director, Pediatric Allergy and Pulmonary Division; College of Medicine; University of Iowa, Iowa City, Iowa.

§ Clinical Coordinator, Allergy & Pulmonary Division; Department of Pediatrics; College of Medicine; University of Iowa; Iowa City, Iowa.

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trials of bronchodilators and corticosteroids with little or no response.

Three patients were male; six were female. Ages ranged from 6 to 17 years (median = 11 years). Symptoms had been present for periods ranging from 1 week to 12 months (median = 2 months). Evaluation by us demonstrated all to have completely normal pulmonary function, unremarkable chest roentgenograms, and no evidence of symptoms or pulmonary function changes from bronchoprovocation with exercise or histamine.

Treatment

Suggestion therapy was used for all nine patients diagnosed with habit cough. This consisted of a single 15-minute session by a staff physician in the Pediatric Allergy and Pulmonary Division that utilized a distractor, most typically the administration of dilute nebulized topical anesthetic, 0.5 mL of 1% lidocaine diluted to 3 mL with normal saline.¶

The sessions included the following elements:

1. An expression of confidence, communicated verbally and behaviorally, that the therapist will be able to teach the patient how to stop the cough.
2. Explaining the cough as a vicious cycle of an initial irritant, now gone, that had set up a pattern of coughing which causes irritation and further coughing.
3. Encouraging the suppression of cough in order to break the cycle. The therapist closely observes for the initiation of muscular movement preceding coughing and immediately exhorts the patient to hold the cough back, emphasizing that each second of delay makes further inhibition easier.

¶ Other distractors were used in two patients; one received an injection of hydroxyzine and another sipped warm water. We believe the specific distractor is less important than the patient developing confidence that they have learned to resist the urge to cough.

4. Repeated expressions of confidence that the patient was developing the ability to resist the urge to cough.

5. When some ability to suppress symptoms is observed (usually after about ten minutes), asking in a rhetorical manner if they are beginning to feel that they can resist the urge to cough, eg, "You're beginning to feel that you can resist the urge to cough, aren't you?"

6. Discontinuing the session when the patient can repeatedly answer positively to the question, "Do you feel that you can now resist the urge to cough on your own?" This question is only asked after the patient has gone five minutes without coughing.

The patient is instructed to concentrate on the distractor, eg, slow deep breathing of the aerosol, while listening to a constant patter by the physician telling the patient that the aerosol would help soothe the irritation inducing the cough and make it easier for the patient to resist the urge to cough. Primary emphasis is placed on the fact that it is the patient who actually is resisting the urge to cough and that the aerosol is only soothing the irritation, which will then break the vicious cycle of cough-irritation-cough.

The patient's attention is focused uninterruptedly on the therapist throughout the session using direct eye and/or physical contact with the patient. The therapist consistently conveys confidence that the patient will be able to lean to resist the urge to cough and thereby control the troublesome symptoms. Short periods of self-control during the session are rewarded with praise, encouragement, and repeated expressions of confidence. We consistently avoided explicit and implicit statements that the problem was "all in the head," intentional, or that they "could stop it any time they wanted." We preferred the term "habit" cough rather than "psychosomatic" or "psychogenic" cough because no general underlying psy-

chopathology was presumed. Overall, the treatment was based on providing the suggestion that self-control of symptoms could be obtained, shaping symptom control through reinforcing successive approximations of success, and giving consistent social reinforcement throughout all phases of the treatment.

A cough-free period is generally reached within the first ten minutes. The complete session is then over in about 15 minutes, the approximate duration of a 3-mL nebulization treatment with the dilute lidocaine. The patient is advised that they can repeat the procedure on their own, either without a distractor or sipping warm water to "soothe the irritation," for any recurrence of the cough.

Assessment of Outcome

All patients had been contacted about 1 week following the initial therapy. After nine patients with habit cough were identified for long-term follow-up, vigorous attempts were made to contact the patients and perform a structured telephone interview. We also requested the completion of a standardized psychologic questionnaire for physical and emotional complaints, the SCL-90-R.³ This checklist provides a report of symptoms on three global scales and nine specific scales (eg, depression, anxiety, somatization, etc). Responses to this measure were used to determine whether patients reported symptoms suggestive of a somatization disorder or psychologic distress, at the time of the follow-up.

RESULTS

All nine patients with habit cough had symptoms stopped at the com-

One patient with habit-cough syndrome treated since completion of this report required 30 minutes for cessation of symptoms. This 14-year-old, "straight A" student with an interest in a career in science was very skeptical of the procedure. Nonetheless, he stopped coughing and expressed confidence by the end of the treatment that he would be able to self-control symptoms should they return.

pletion of the suggestion therapy session. At 1 week after treatment, one had no more symptoms and eight had minor symptoms that were promptly self-controlled using the technique they learned during the 15-minute session of suggestion therapy. Seven of the patients could be contacted by telephone up to 9.4 years (median = 3.6 years) after the session of suggestion therapy. Six of the seven were completely asymptomatic; one patient with habit cough continued to have minor self-controlled symptoms 5 years after the treatment. The whereabouts of two were unknown at the time of the study, but both had been asymptomatic at the time of last contact with the clinical service which occurred at 1 week and 1 month respectively after the initial treatment with suggestion therapy (Table 1).

The patients with habit cough contacted at the time of the study completed the SCL-90-R. Scores were converted to T-scores with a mean of 50 and a standard deviation of 10, with a score above 70 for any specific scale being considered clinically relevant. None of the patients had a Global Severity Index above 60, and most had scores below 50. Only one patient with habit cough had even a single score on any specific scale as high as 70; this was on the Obsessive-Compulsive scale. That patient also had a mildly elevated score of 64 on the Somatization scale. The other six had no individual scale scores above 60. Three patients had very low Global scores (Positive Symptom Total T-scores of 21, 32, and 34) consistent with the possibility of guarded responses.

DISCUSSION

The treatment of habit cough with the single brief course of suggestion therapy described was effective in our hands both immediately and over the period of follow-up (up to 9.4 years, median = 2.2 years). This positive and sustained response to a simple therapeutic measure was particularly impressive given the pre-

Table 1. Outcome of Patients Treated with Suggestion Therapy*

Symptoms	Immediately After Rx	One Week Later	At Follow-up Interview†
None	9	1	6
Minor, self-controlled	0	8‡	1
Major, sought medical care	0	0	0

* Median time for followup interview = 2.2 years, range 8 days to 9.4 years.

† Two patients could not be contacted for the study follow-up interview; at the time of last contact, one had been asymptomatic for 1 week; and the other, for 1 month after treatment.

‡ One patient required a second session of suggestion therapy 9 days after original one.

vious duration of symptoms, degree of morbidity, and extent of medical care received among these patients. Psychologic assessment with the standardized SCL-90-R questionnaire identified no evidence for somatization in all but one of these patients at the time of follow-up. It is possible that the low scores in three of the patients indicates a degree of defensiveness in their responses, but there was clearly not the excessive report of physical complaints that is typical of somatization or anxiety disorders. In contrast to the apparent immediate and sustained "cures" in all of these patients, 44 of 60 patients identified with habit cough at Mayo Clinic, who had not received a uniform plan of suggestion therapy, required an average of 6 months beyond the diagnosis for resolution, and 16 continued to be symptomatic even years (mean = 5.9 years) later.⁴

Previous reports have supported the value of suggestion therapy. In 1966, Berman¹ reported six patients with habit cough successfully treated with therapy that "relied solely on the art of suggestion." The children were told that the cough was a habit, that there was no evidence of disease-causing symptoms, and therefore the cough was unnecessary and must stop. Within 1 week, the habit cough was reported to have gradually subsided without recurrence during a 2-year follow-up. Special attention was paid in that report to the possibility of psychologic or emotional disturbances as a cause of cough, but only in one case was there a suggestion of school

phobia. Kravitz et al⁵ and later Weinberg⁶ reported treatment of nine and three cases of habit cough, respectively, using suggestion therapy with tranquilizers and psychotherapy for some.

Other investigators have reported more underlying psychologic problems. School-related problems and secondary gain were suggested for many children with habit cough.⁵⁻⁷ Others have reported "elevated level of anxiety, neuroticism, affective lability, hyperreactivity, and low tolerance to frustration."⁸ Therapeutic measures ranging from mild tranquilizers to prolonged psychotherapy have consequently been recommended with variable response. Nonetheless, one patient, an 11-year-old girl, diagnosed as "adjustment reaction . . . with obsessive, hysterical, and phobic features" remained asymptomatic 7 years after suggestion therapy (using a lollipop as a distractor) despite coughing so severe that she had suffered rib fractures.⁹

A novel approach to suggestion therapy was suggested by Cohan and Stone¹⁰ who described cessation of symptoms in 31 of 33 patients with habit cough in 24 to 48 hours after suggestion therapy reinforced by a bedsheet tightly wrapped around the patient's chest. Limited follow-up on these patients suggested sustained remission. The same technique was repeated successfully by Wolff¹¹ with no further symptoms 1 week after the treatment. No psychotherapy or medications had been used by those authors. Lavigne et al¹² reported

success in patients using a reinforced suggestion technique relying upon parental and self-monitoring of coughing and either social or material rewards for decreased coughing.

A recent report suggested that localized areas of tracheomalacia may cause a cycle of cough and tracheal irritation with perpetuation of a cough that sounds the same as the habit cough syndrome.¹³ Although the author of that report speculated that some patients with habit cough syndrome may demonstrate tracheomalacia identifiable only with fiberoptic bronchoscopy, the patients included in the report differed from classical habit cough in that all had prominent nocturnal symptoms in addition to the repetitive daytime cough. Despite the organic cause demonstrated for the cough in that report, hypnosis was used in an attempt to break the cycle of cough inducing tracheal collapse with irritation resulting from repeated contact of the membranous and cartilaginous portions of the collapsing tracheal segment. Sustained efficacy following hypnosis was reported in five of seven subjects.

An assessment of our data and the medical literature suggests that the major morbidity from habit cough results from misdiagnosis and excessive medical treatment. Correct diagnosis alone, however, appears not to provide a positive outcome. In the absence of suggestion therapy, these patients frequently remain symptomatic for months and years.⁴ Despite the functional nature of these symptoms, patients with habit cough seen by us did not

show evidence at the time of follow-up for other functional or emotional disorders. A single session of suggestion therapy provided a successful outcome without either sustained medical or psychologic treatment. This suggests that symptomatic treatment with suggestion therapy does not, in most cases, overlook psychopathology that will emerge at a later time in the form of other somatic complaints or general psychologic distress.

The mechanism for this disorder is obscure. The ease of curing habit cough with suggestion in patients who have suffered from this condition for months is as perplexing as it is impressive. Although the treatment is superficially simple, it does consist of several active components in addition to verbal suggestion; the components include the gradual shaping of symptom control and strategic social reinforcement throughout the treatment session. Whatever the mechanisms of symptom maintenance or control, these patients appear best served by avoiding pharmacotherapy and utilizing suggestion therapy that focuses on the patient's becoming convinced that the urge to cough can be resisted. It appears unnecessary for a successful outcome to look for an underlying psychogenic cause, and psychotherapy is usually not needed.

REFERENCES

1. Berman BA. Habit cough in adolescent children. *Ann Allergy* 1966; 24:43-7.
2. Bernstein L. A respiratory tic: the barking cough of puberty. *Laryngoscope* 1963;78:315-9.
3. Derogatis LR. The SCL-90-R Baltimore: Clinical Psychometric Research, 1975.
4. Rojas AR, Sachs MI, Yungger JW, et al. Childhood involuntary cough syndrome: a long-term follow-up study. *Ann Allergy* 1991; 66:106.
5. Kravitz H, Gomberg RM, Arnstine RC, et al. Psychogenic cough in children and adolescents. Nine case histories illustrate the need for re-evaluation of this common but frequently unrecognized problem. *Clin Pediatr* 1969;8: 80-3.
6. Weinberg EG. "Honking" psychogenic cough tic in children. *S African Med J* 1980;57:198-200.
7. Shuper A, Mukamel M, Minichi M, et al. Psychogenic cough. *Arch Dis Child* 1983;58:745-7.
8. Houstek J, Vyhnalek M, Sukop B, et al. Psychogenni kasel. *Ceskoslovenska Pediatrie* 1983;38:405-7.
9. Lorin MI, Slovis TL, Haller JO. Fracture of ribs in psychogenic cough. *New York State J Med* 1978;78:2078-9.
10. Cohlman SQ, Stone SM. The cough and the bedsheet. *Pediatrics* 1984;74:11-5.
11. Wolff PS. An ingenious way to treat psychogenic cough. *Am J Maternal Child Nursing* 1988;13:118-20.
12. Lavigne JV, Davis AT, Faubert R. Behavioral management of psychogenic cough: alternative to the "Bedsheet" and other aversive techniques. *Pediatrics* 1991;87:532-7.
13. Wood RE. Localized tracheomalacia or bronchomalacia in children with intractable cough. *J Pediatrics* 1990;116:404-6.

Request for reprints should be addressed to:
Miles Weinberger, MD
Pediatric Department, JCP
University of Iowa Hospitals
Iowa City, IA 52242