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Habit cough: assessment and management

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Summary Habit cough is a condition that is often misdiagnosed as asthma. The cough is bizarre in nature, troublesome to those around the person coughing and clearly a waking phenomenon. Often, relatives will have considered the possibility of a habit cough by the time that they present to the respiratory or general paediatrician. In the majority of cases, simple explanation of the nature of likely stressors and reassurance form the basis of effective therapy. In young people with more entrenched symptoms, the provision of coping strategies and increasing the subjective sense of control is an intervention in itself and will improve the likelihood of a good outcome. In more extreme cases, the role of rehabilitation programmes involving negotiation with schools and community organisations may prove useful in remediation of the cough and normalisation of social and peer supports.

INTRODUCTION

Cough, laboured breathing and noisy breathing are common in children. They represent the presenting features of organic and occasionally functional respiratory problems. The differentiation of an organic cause for cough from a functional cause relies on a careful history from the parent/child and a sensitive awareness of likely stressors that the child may face in the home, neighbourhood and schoolyard. In particular, the duration of the cough, its frequently bizarre sound and the absence of cough during sleep should prompt the clinician to consider a diagnosis of habit, psychogenic or involuntary cough. This article will discuss a range of strategies that have proven useful in the management of habit cough, centring on explanation and reassurance in the first instance.

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WHY DO RESPIRATORY SYMPTOMS FEATURE IN FUNCTIONAL ILLNESS?

There is a bidirectional interaction between the automatic processes of respiration and the inducible aspects of emotion and behaviour.[1] Changes in our breathing pattern, conscious and subconscious, reflect our health and wellbeing.[1–3] Emotional influences in adolescents have an effect upon organic causes of cough such as asthma,[4] so it is not unreasonable for emotion to influence functional respiratory problems such as habit cough, vocal cord dysfunction, hyperventilation and sighing dyspnoea.

CHARACTERISTICS OF HABIT COUGH

Habit cough has been described in children and adolescents with no apparent gender bias.[5] The cough is often characterised by a short inspiration followed by a brief, explosive expiration that results in a honking quality.[1,5] The cough gains the attention and often, initially, the sympathy of those in the immediate vicinity. Children with a habit cough are unperturbed by the outwardly impressive extent

of their cough but the cough may come to dominate conversation and activity. This frequently results in school absenteeism (often for extended periods), a perceived inability to participate in sports/social activities and a succession of inappropriate therapies including over-the-counter cough medicines, bronchodilators, systemic and inhaled corticosteroids and antibiotics.[3,5]

It is common for a habit cough to evolve following an upper respiratory tract infection.[5–8] The moist infective cough merges with the dry, irritative and noisy cough. Slowly, the cough becomes a waking phenomenon and a growing concern to those around the child. The severity of the cough may vary with prevailing circumstances, company and the underlying stressors. The cough may well intensify during contact with healthcare professionals and is readily reproduced on request by the child.[2,5–8] The results of physical examination, simple investigations (e.g. chest radiograph or spirometry) and more invasive investigations (e.g. bronchoscopy) are normal.[7,8]

WHEN ASTHMA, EXERCISE, DYSPNOEA AND HABIT COUGH ARE INTERTWINED

Asthma is common in children. Not surprisingly, children with asthma may develop a habit cough. Equally, not all children with cough have asthma. Exercise-induced dyspnoea and cough are common manifestations of asthma. Not unreasonably, these symptoms are attributed to asthma in otherwise healthy children and adolescents. However, it is the absence of any other symptoms and signs of asthma, the lack of response to appropriate doses of a beta agonist and the, at times, inconsistent response to exercise that should prompt consideration of functional respiratory problems such as habit cough, as reflected in a recent case report.[6]

Furthermore, an overemphasis on labelling exercise limitation, cough and fatigue as asthma is reflected in one recent series which reported 142 children and adolescents assessed using formal exercise testing for exercise-induced dyspnoea present for a mean duration of 30 months.[9] Seventy percent of the subjects had been given a label of asthma by the referring physician and 83% (117/142) demonstrated symptoms of exercise-induced dyspnoea during formal exercise testing. Of those 117 with symptoms reproduced in testing, 63% (74/117) had normal physiological exercise limitation, 13% had restrictive lung disease, 11% had vocal cord dysfunction and only 9% (11/117) had exercise-induced asthma.[9]

However, functional respiratory limitation, typically vocal cord dysfunction, habit cough and dyspnoea, may also be apparent in elite athletes and should be considered in subjects with unexplained declining performances (colloquially called 'choking'), lack of other symptoms and signs of asthma and a lack of benefit from strategies to minimise exercise-induced asthma such as the use of beta agonists prior to sport training or performance.[10] The psychological edge in elite sport is considered to be important and so it is reasonable to expect that the pressure to perform may create an unreasonable burden upon vulnerable individuals when results are demanded of the children by themselves, their parents and their coaches.

WHEN TO SUSPECT HABIT COUGH

In some children, the diagnosis of habit cough is made in the waiting room because of the characteristic 'honking' or Canadian goose quality of the cough. However, children may be referred with labels of 'chronic cough', 'asthma unresponsive to corticosteroids', 'exercise limitation with cough and dyspnoea', 'atypical croup' or 'query inhaled foreign body'.[5,6] In many cases, suspicion of habit cough is raised by the unusual history, limitation of cough to wakefulness, the characteristics of the cough and normal physical examination.[2,6–8] Suspicion of a habit cough is one thing but a far greater challenge is to unravel what is driving the cough in some children. In this setting, it is important to gather a brief psychological profile of the child and the family dynamics, as well as to ascertain whether school issues such as bullying are occurring. A number of potential stressors should be considered in children and adolescents with habit cough (Table 1).

INITIAL MANAGEMENT

Management of habit cough can be simple or complex. The majority of cases of habit cough will respond to an appropriate explanation of what drives habit cough, its benign nature and reassurance. This is contingent on a number of inter-related factors involving the child, family and doctor (Table 2). In most cases, exclusion of organic disease by physical examination and any appropriate investigations, together with explanation and reassurance, may be sufficient to allay family anxiety and to result in a waning of the symptom over time. In addition, management may require that parents mobilise resources to address some of the child's predicaments.[11] Resolution of predicaments

Table 1 Potential stressors underlying habit cough.[6]

- Frequent family relocation
- Changing schools and peer groups
- Transition between separated or divorced parents' homes
- Bullying at school or in local community
- Academic achievement [under- or overachievement, trouble with teacher(s)]
- Family issues, parental discord, sibling disagreements
- Pressure from parents (sporting, academic)
- Pressure from sporting coaches
- Peer pressure (sex, drugs, criminality)