

Medi Quest BRS Hospital

A monthly News letter from BRS Hospital

CHRONIC COUGH IN CHILDREN CAUSES AND EVALUATION

(Part - II)

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Continuation from previous issue

8. Eosinophilic lung disease

The possibility of eosinophilic lung disease should be considered in children with elevated eosinophils in peripheral blood and chronic cough. Pediatric eosinophilic pneumonia is characterized by infiltration of alveolar spaces, resulting in local or diffuse pulmonary infiltrates on radiography. The diagnosis relies on the finding of elevated eosinophils in fluid from BAL. Elevation is often defined as eosinophils >20 percent of total cell count, although the cut-off is controversial, as a disorder known as "nonasthmatic eosinophilic bronchitis" in adults is defined as airway eosinophilia of >3 percent.

Eosinophilic lung diseases can be classified as primary or secondary. Primary conditions are those in which no other cause is determined. Secondary conditions can be due to infectious causes such as

parasites (eg, *Ascaris lumbricoides*, *Strongyloides stercoralis*) or fungus (eg, allergic bronchopulmonary aspergillosis, pulmonary coccidioidomycosis, pulmonary histoplasmosis), or rarely drugs.

9. Interstitial lung disease

Interstitial lung disease (ILD), also known as "diffuse lung disease," is a group of disorders that involve the pulmonary parenchyma and interfere with gas exchange.

They tend to present with tachypnea, cough, fine crackles on auscultation, or hypoxemia; failure to thrive or clubbing of the digits may be present.

A plain chest radiograph is usually abnormal, but rarely specific. Spirometry (in children >6 years) typically shows a restrictive pattern. The presence of ILD is confirmed by HRCT. Further investigation



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to determine the type of ILD may include genetic testing or lung biopsy.

10. Environmental Pollutants

Cigarette smoke, dust mites , cooking smoke

11. Postinfection (self-resolving)

Viral infections

Respiratory viral infections are the most common cause of acute cough, and also likely the most common cause of "nonspecific" chronic cough. These children have dry cough and do not have any specific cough "pointers". These cases resolve without any therapies and can be managed with reassurance and observation.

Bordetella pertussis infection

i In young children, *Bordetella pertussis* or *Para pertussis* infection can present with a typical paroxysmal whooping cough.

ii In infants and older children, the classic features may not be seen.

iii Can occur in immunised children as well

iv In infants antibiotic therapy can be given even up to six weeks of symptom onset

Other infections

Infections such as *Mycoplasma pneumoniae* and *C. pneumoniae* also may cause chronic cough, with

or without evidence of an antecedent pneumonia. This chronic cough tends to resolve with time, antimicrobials specifically for the cough are not usually unnecessary in otherwise healthy children.

12. Space-occupying lesions

A rare cause of chronic cough in children is a mediastinal mass (eg, due to cancer), which may be evident on initial chest radiograph. Children with findings suspicious for cancer should be further evaluated with HRCT of the chest or MRI and referred to an oncology specialist.

EXTRAPULMONARY CAUSES OF CHRONIC COUGH IN CHILDREN

1. Cardiac

Rarely, chronic cough in children is caused by underlying cardiac disease, particularly pulmonary hypertension or cardiogenic pulmonary edema.

2. Ear disease (otogenic cough)

A rare cause of chronic cough in children is the otogenic reflex (also known as the ear-cough reflex). In a minority of individuals, the external ear is innervated by a branch of the vagus nerve. In this case, irritants (eg, cerumen) can cause chronic cough and removal of the irritants may improve the symptom. Although this reflex is common among adults with chronic cough, its prevalence in children with chronic cough is similar to that in healthy children.

3. Medications

A small number of medications are known to cause a chronic cough. In particular, cough is a well-



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recognized side effect of angiotensin-converting enzyme (ACE) inhibitors

4.Habit cough (tic cough) and somatic cough disorder (psychogenic cough)

- Habit cough (also known tic cough) describes a cough with repetitive and habitual features similar to a vocal tic, especially suppressibility, distractibility, and suggestibility.

- Somatic cough disorder (previously known as psychogenic cough) is a diagnosis of exclusion

It is prominent during office visits and absent during sleep; a history of an antecedent initial upper respiratory tract illness is common and may be a triggering event]. The physical examination is normal apart from the cough. Although typical clinical characteristics are often evident on first consultation, this remains a diagnosis of exclusion after other possible causes have been evaluated. The typical age range for children with these disorders is 4 to 18 years, with a median of 10 years. The prevalence varies substantially among different populations and also depends on awareness of this diagnosis among clinicians. In a study of patients referred for Chronic cough in Australia, the prevalence of habit cough was 4.3 percent overall and 8 percent in a pulmonology clinic in Sydney

Upper Airway Causes of Chronic Cough Upper airway pathology

Upper airway disorders are probably not a

cause of chronic cough in children; the main considerations are:

- **Upper airway cough syndrome**

Upper airway cough syndrome (UACS), also known as "postnasal drip," is probably an uncommon cause of chronic cough in children, although there is some controversy on this question.

- **Chronic rhinosinusitis**

Similarly, chronic non-infectious rhinitis is probably not a common cause of cough in children, although it is a recognized cause of UACS in adults. Nonetheless, if a child has chronic cough and symptoms of a chronic non-infectious rhinitis (eg, because of chronic clear nasal drainage and boggy or edematous nasal mucosa), a trial of intranasal glucocorticoids is appropriate.

- **Chronic sinusitis**

Chronic sinusitis is not a common cause of chronic cough in children except in association with an immune defect predisposing to chronic infection. Typical symptoms of chronic sinusitis are a thick and colored chronic nasal discharge. It is common practice to treat patients empirically with antibiotics, and in some cases both the discharge and cough improve with treatment. However, this response does not prove an association between sinusitis and cough. This is because patients with protracted bacterial bronchitis

BRS HOSPITAL congratulates

Prof. Dr. B. Kiran Madhusudhan, M.D., (Micro),

MABMS, M. Med (Family medicine)

on being conferred with the

“ Vocational Excellence Award and Citation ”

from **Rotary club of Chennai Gemini**

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