Approaches to Chronic Cough in Children

Ryan K Sewell, MD JD FACS
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Disclosures

- None

Objectives

- Understand cough classification
- Be able to identify common causes of chronic cough
- Be able to identify possible surgical patients with chronic cough

Case

- 12 year old male presents to clinic for cough over the past month
- What questions would you like to ask?

Definition

- No consistent definition for “chronic” cough
  - 3, 4, or 8 weeks most common duration
  - Normally children will cough 11 times a day

Kids are NOT little adults

- Post nasal drainage, GERD, and asthma account for majority of adult chronic cough
- "the lack of evidence for these three diagnoses in paediatric practice emphasise that adult cough protocols have no role in the diagnosis or management of children with chronic cough." (1)
Why do kids cough - #1
  - Number of patients – 108 Australian children
  - Average age – 2.6 years
  - Definition – 3 weeks
  - Final diagnosis
    - Protracted bacterial bronchitis – 40%
    - Spontaneous resolution - 22%
    - Bronchiectasis – 6%
    - Asthma – 4%
    - Post nasal drainage – 3%
    - GERD – 3%

Why kids cough - #2
  - Number of patients – 40 American children
  - Average age – 7.8 years
  - Definition – 8 weeks
  - Final diagnosis
    - GERD – 27%
    - Post nasal drainage – 23%
    - Asthma – 13%
    - Infection - 5%
    - Aspiration 2%
    - Multiple causes – 22%

Why kids cough - #3
  - Number of patients – 108 Turkish children
  - Average age – 8.4 years
  - Definition – 4 weeks
  - Final diagnosis
    - Asthma – 25%
    - Protracted Bacterial Bronchitis – 23%
    - Post nasal drainage – 20%
    - Multiple causes – 19%
    - GERD – 5%

Lack of common definition makes study very difficult
- In general
  - Shorter term indicates more infectious cause
  - Longer term cough more indicative of a non-infectious cause

Sample algorithm – AACP Guideline

Specific cough

*Chronic productive cough is always pathologic*
Cough Characteristic

Post viral cough
- 1:10 children will still be coughing 3 weeks after an upper respiratory infection
- Children <5 have 3.8 to 5 infections per year
- Typically a dry cough
- No treatment necessary

Pertussis
- Presents typically with coughing spells followed by the “whoop”
- Vaccination can provide protection but does NOT prevent the disease
- Consider when there is post tussive vomiting
- Called the “100 day cough”
- Typically treated with macrolides

Habit Cough Syndrome (Tic cough)
- Typically an explosive cough but does not bother the child
- “Seal-like”
- “Honking”
- Rarely present at night
- Responds to behavioral health strategies

Protracted Bacterial Bronchitis
- Wet cough
- Diagnosed with bronchoscopy (or empirically)
- Most common bacteria are Strep pneumo, H flu, Moraxella catarrhalis
- Can take a 2 week course of broad spectrum antibiotic (e.g. amoxicillin and clavulanate) to avoid bronchoscopy

Upper Airway Cough Syndrome (UACS)
- The rest of us call this post nasal drip
- This is controversial in children
- Cough in this setting is likely due to
  - Common viral/bacterial infection and/or
  - Clearing of secretions from larynx
Back to our case - History

- How and when cough started? - one month ago at the park
- Other symptoms? - Progressive dyspnea with exertion
- Any cough triggered? - activity
- Does the cough go away when they sleep? - yes
- What does the cough sound like? - wet, deep cough
- Any treatment to date? - Duoneb which has not really helped
- Family history of respiratory, allergic, or infectious disease? - adopted
- Any smoking? - none in the home

Past medical history/ROS

- PMHx: triplet (all surviving), strabismus surgery
- SH: Healthy and lives with father
- FH: noncontributory
- Meds: Duoneb
- Allergy: No allergies
- Immunizations: up to date
- ROS: wears glasses

Physical exam

- Awake, alert, NAD
- Head - NC/AT
- OC/OP - clear
- Occasional wheeze over left lower lung

NEXT STEP?

- Medical management?
- Imaging?

Sample algorithm - AACP Guideline

- chest
Expiratory film

NEXT STEP?
- Medical management?
- Operating room?
- Pulmonary consult?

endoscopy

endoscopy

References