

DIAGNOSIS & MANAGEMENT OF WHEEZING

Bronchial Asthma

- ***Salient features:-*** Triad of dyspnea, cough & wheezing
- Early onset (50% cases before age 10 and another 1/3 before age 40)
- Episodic disease, acute exacerbations interspersed with, symptoms free period
- H/o atopy (Personal or family history of allergic diseases such as eczema, rhinitis or urticaria)

- H/o nocturnal awakening with dyspnea and/ or wheezing
Wheezing is diffuse throughout both lung fields.

Diagnosis: by demonstrating reversibility on PFT. If spirometry normal diagnosis can be made by airway responsiveness to challenges with histamine, methacholine or isocapnic hyperventilation of cold air.

Management: Drug Treatment

- 1). ***“Quick relief medication”***: drugs that inhibit smooth muscle contraction.
- i) ***B₂ agonist: short acting***
 - : Fenoterol
 - : Salbutamol
 - : Terbutaline
 - : **Long- acting**
 - : Formoterol
 - : Salmeterol
- ii) ***Anti-Cholinergics***
- iii) ***Methylxanthines***

- **2). “Long term control medications”:**
Agents that prevent and/or reverse inflammation

Glucocorticoids:systemic: prednisolone
methylprednisolone

- ***Inhaled :*** Beclomethasone, Budesonide, fluticasone, flunisolide & triamcinolone
- ***Leukotriene inhibitor:*** zileuton
- **Leukotriene receptor antagonist:**
Zafirlukast, montelukast
- ***Most cell stabilising agents:*** cromolyn sodium, nedocromil sodium

COPD

Salient Features:

- Onset typically in 5th Decade.
- (prevalence peak in 7th & 8th decade)
- Chronic course with no true symptom-free period (H/o chronic cough with sputum production on which actual attack of wheezing are superimposed)
- H/o current & past smoking
- Dysnea is exertional & progressive

- Diagnosis : Forced expiratory time > 6S
: PFT

Management: Smoking cessation

- Bronchodilators (short & long acting B₂ agonists, anticholinergics, & Theophylline derivatives)
- Glucocorticoids
- Antibiotics for acute exacerbations

Lung Neoplasm

- ***Salient features:-*** central or endobronchial tumor may cause cough, hemoptysis, wheeze & stridor, dyspnea & postobstructive pneumonitis (fever & productive cough)
- Elderly male (>45 years)
- H/o Smoking
- H/o asbestos exposure
- Chronic course
- Wheezing is localised to one area of chest & persistent (diffuse wheezing throughout both lung fields absent)
- Wheezing asso. with paroxysms of coughing

DIAGNOSIS

- Sputum cytology
- Chest radiographs
- CT Scan
- Bronchial or transbronchial biopsy by fiberoptic bronchoscopy
- Node biopsy by mediastinoscopy
- **Management:** surgery for localised disease
- Chemotherapy & radiotherapy for advanced disease

Foreign Body Aspiration

- ***Saliest features:*** Acute onset
- Persistent wheezing localised to one area of chest.
- Asso. with paroxysms of coughing

DIAGNOSIS:

- By bronchoscopy
- ***Management:*** Bronchoscopic removal

Angioglottic Edema

- ***Salient features:*** Can be confused with asthma
- Pts. Typically present with stridor
- Harsh respiratory sounds can be localised to the area of trachea
- An allergic history together with few scattered cives favors the **diagnosis**
- H/o drug allergy, insect stings or bites, ingestion of certain foods eg. Egg, shellfish or nuts

- Asso sweeling of hands or feet, eyelids, lips, genitalia & mucous membrane

DIAGNOSIS

- Indirect laryngoscopy

■ Treatment

- SC epinephrine, antihistamine (eg diphenrhydramine), glucocorticoids

Carcinoid Syndrome

- Wheezing or asthma like symptoms in 8 to 18 %
- *Other features:*
- Diarrhea
- Flushing
- Abdominal pain
- Heart disere (pulmonic stenosis,TR)

- ***Diagnosis:*** measurement of urinary or plasma serotonin or its metabolites in the urine.
- Measurement of urinary 5-HIAA is most frequently used.
- ***Management:*** dietary supplementation with nicotinamide, diuretics for heart failure, oral bronchodilators
- Antidiarrheal agents
- octreotide

Recurrent pulmonary emboli

1. **Salient features: repeated episodes of dyspnea at rest, wheezing sometimes present**
 - H/O phlebitis of lower extremity or pelvis favors the diagnosis
 - H/O surgery, trauma, obesity, cancer, immobilization (stroke or ICU patients)
 - **DIAGNOSIS**
 - Pulmonary angiography, ventilation perfusion scan, chest CT
 - **Treatment**
 - Anticoagulant therapy

Acute left ventricular failure

- the sign & symptoms occasionally mimic asthma with dispnea & wheezing

2. *But other signs of heart failure are present: blood tinged sputum, basilar rales, raised JVP and/or peripheral edema*

- H/O orthopnea

- H/O paroxysmal nocturnal dyspnea COPD pts. Also have nocturnal dyspnea but this is usually relieved by cough expectoration of sputum

DIAGNOSIS

- : CXR with sign of heart failure (left ventricular enlargement, interstitial edema, pulmonary vascular redistribution)
- echocardiography
- Radionuclide ventriculography

Mx:-low-salt diet
diuretics, digitalis

GERD

- ***Salient feature:*** - reurrent pulmonary aspiration can cause aspiration pneumonia, pulmonary fibrosis or chronic asthma
- H/O regurgitation of sour material in the mouth & heartburn favors the.. diagnosis

DIAGNOSIS

- Esophagoscopy
- Bernstein test with 0.1 n Hcl & normal soline
- 24-H esophageal PH recording

Mx:- 1) H2 blockers : cimetidine, ranitidine

2) PPI

3) antireflux surgery(fundoplication) for resistant cases

BRONCHIECTASIS

- ***Silent Feature:-*** Dyspnea or wheezing generally reflects widespread bronchiectasis
- H/o persistent or recurrent cough with purulent sputum
- production of copious sputum >60 ml/d
- H/o hemoptysis
- Presence of clubbing
- Postural variation

DIAGNOSIS

CXR, HRCT

Bronchography

Mx:

chest physiotherapy

Mucolytic agents

**Antibiotics during acute
exacerbation**

Bronchodilators

RESPIRATORY BRONCHIOLITIS

- Mainly is infants between 1 and 6 month of age
- Illness begins with rhinorrhea, low- grade fever, cough, wheezing
- CXR shows hyperexpansion, peribronchial thickening, and variable infiltrates ranging from interstitial infiltrates to segmental or lobar consolidation

DIAGNOSIS

- immunofluorescence microscopy of nasal scraping or washing
- ELISA

Rx:- Hydration

suctioning of secretions

**Administration of humidified
oxygen**

aerosolized ribavirin

All the best.....