Diagnosis and Management of Adult Asthma in Primary Care

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Aims and Objectives of this session

- To understand the diagnosis and differential diagnosis of asthma
- To understand the clinical presentation of asthma
- Investigations in Primary Care
- BTS/SIGN asthma guidelines
- To understand when to refer to a respiratory specialist

Definition of Asthma

"A chronic inflammatory disorder of the airways in susceptible individuals associated with widespread, but variable airflow obstruction and an increase in airway response to a variety of stimuli. Obstruction is reversible, either spontaneously or with treatment"

Epidemiology and Risk Factors for Asthma

- Common problem in adults and children (2-30%)
- Prevalence of asthma is increasing world-wide
- Incidence is 2.6-4/1000 individuals/year
- Prevalence is 3-34%
- Mortality 4/100,000 in UK
- 1500 deaths /year (5/day) in UK

Factors that Contribute to Asthma

- Inherent (inherited) Factors
  - Atopy (hayfever, eczema)
  - Gender
- Environmental/causal Factors
  - Smoking
  - Infection
  - Pollution
  - Weather
  - Allergens
  - Occupation
  - Drugs
  - Exercise

Clinical Presentation of Asthma in Adults

- Dry cough
- Nocturnal cough
- Shortness of breath (SOB)
- Wheeze
- Chest tightness/pain
- Decreased exercise tolerance
  - Variable
  - Intermittent
  - Diurnal
  - Precipitated by triggers

Clinical Presentation of Asthma in Adults

- Clinical examination may be normal
- During exacerbations (asthma attacks)
  - Increased respiratory rate (tachypnoea)
  - Polyphonic wheeze
  - Use of accessory muscles (struggling to breathe)

Investigations in Primary Care

- CXR: usually normal, hyperinflated in chronic asthma
- Diurnal Peak Flow monitoring (> 50L/minute variability)
- Spirometry: obstruction (FEV_1 ↓, FEV_1/FVC ↓)
- Bloods: eosinophilia, ↑IgE, specific RAST
- Skin prick tests
- Fractional exhaled nitric oxide (FeNO)

- Full lung function test with reversibility
- Methacholine challenge (provocation test)

Objective Measures

- > 20% diurnal variation on > 3 days in a week for 2 weeks.
- FEV_1 > 15% +/ 200 ml increase after short acting β-2 agonist OR trial of steroids
- Methacholine challenge will show bronchoconstriction.

Differential Diagnosis of Asthma

- COPD
- Bronchiectasis
- Allergic bronchopulmonary aspergillosis (ABPA)
- Vocal cord dysfunction
- Hyperventilation syndrome

Management of Asthma in Adults

- Accurate diagnosis
- Assessment of severity
- BTS/SIGN guidelines

Global Initiative For Asthma (GINA)

www.ginasthma.org

GINA assessment of symptom control

In the past 4 weeks:

Daytime asthma symptoms more than 2x week

Any night time waking 2x week due to asthma

Reliever needed for asthma > 2x week

Any activity limitation due to asthma

None of these: well controlled

1-2 of these: partly controlled

All of these: poorly controlled

Management of Asthma

- Avoid allergens
- Stop smoking
- Inhaled therapy
- Personalised self-management plan
- Regular review by trained healthcare professional to check compliance, inhaler technique and prescription

Aims of Pharmacological Management

- Symptom Control: minimum symptoms during day and night, minimal need for reliever, no limitation of physical activity
- Prevent exacerbations
- Achieve best possible lung function: FEV1 or PEF > 80% predicted (or best)
- Minimal side effects

BTS Guidelines: Stepwise Management

- Step 1:Mild, intermittent asthma
  - Inhaled short-acting β-2 agonist as required
- Step 2: Regular Preventer Therapy
  - Add ICS 200-800 ug/day
- Step 3: Add on therapy
  - LABA, increase dose of ICS to 800 ug/day, consider LKRA
- Step 4: Persistent poor control
  - Consider increasing dose of ICS further, add theophylline
- Step 5: severe symptoms, frequent or continuous use of oral steroids
  - Use oral steroids at lowest dose possible, maintain ICS at 2000 ug/day.
  - Specialist referral for anti IgE therapy (eg Omalizumab), bronchoplasty.

Indications for Referral for Specialist Opinion

- Diagnosis unclear or in doubt.
- Unexpected clinical findings.
- Spirometry does not fit clinical picture.
- Suspected occupational asthma.
- Persistent breathlessness.
- Unilateral fixed wheeze.
- Other atypical symptoms: chest pain, weight loss, persistent cough, sputum production.

Asthma Care Bundle

- 1. Smoking cessation advice given and referral if requested
- 2. Inhaler technique checked and satisfactory
- 3.Satisfactory demonstration of peak flow and result understood
- 4. Self management plan discussed and understood
- 5. Appropriate follow up arrangement

Any Questions?