ALLERGIC RHINITIS

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LEARNING OBJECTIVES

At the end of the lecture, students should be able to:

- Describe and identify physical signs of AR
- Know the clinical manifestations of AR
- Classify AR
- Investigate for AR
- Manage and treat AR

DEFINITIONS

- Symptomatic inflammation of the nose
- Induced by allergen exposure
- IgE-mediated inflammation of the nasal membranes
- May be associated with co-morbidties such as asthma and conjunctivitis

DEMOGRAPHICS

- Worldwide prevalence is 10-40%
- But this is increasing worldwide
- 20% in 6-7 year olds
- 40% 13-14 year olds
- 3 Factors is associated with an increased risk of allergic rhinitis

❑ Family history of Allergic Rhinitis

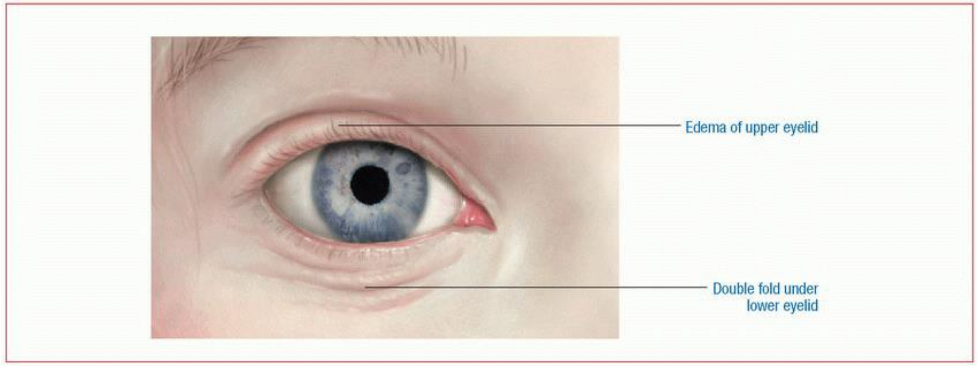
❑History of Food Allergy/Eczema

❑Early allergen sensitisation

HISTORY

- Symptoms of rhinorrhea, nasal congestion, nasal itching, postnasal drip and sneezing
- Nasal congestion
- Usually occurring with hyposmia
- Symptoms are worse at night and early morning
- Ask about symptoms for Asthma and other allergies
- Any indication of possible allergy investigate further eg. House dust or food
- Family History
- Patients history of other atopic manifestations

CLINICAL MANIFESTATIONS



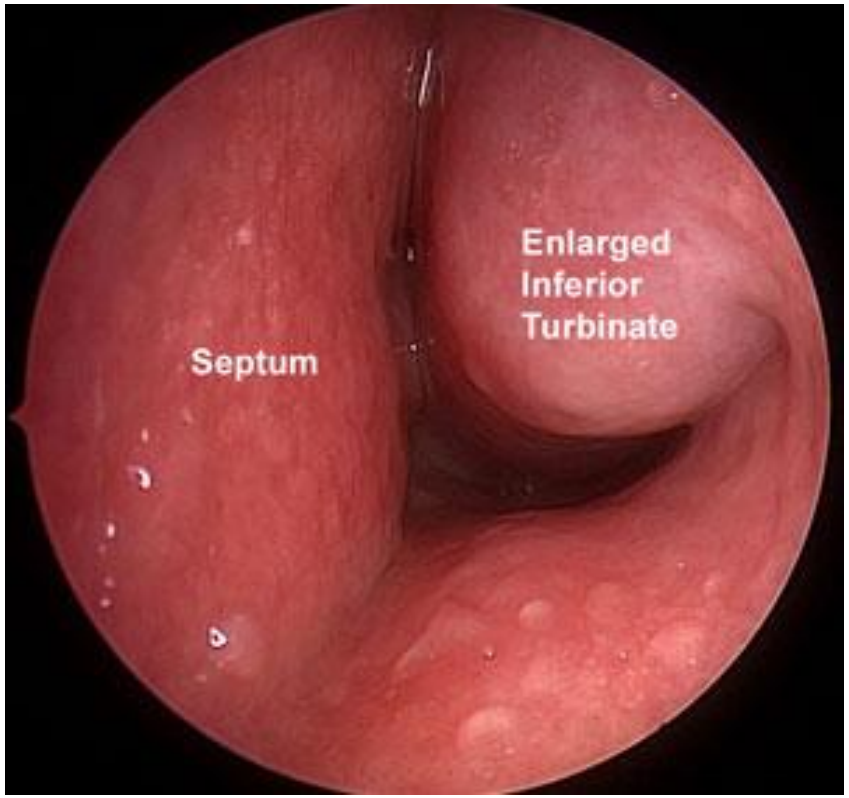
- Allergic facies
- ❑Allergic shiners
- ❑Pallor
- ❑Denny Morgan Lines
- ❑Mouth Breathing

CLINICAL MANIFEST.

- Cobblestoning "streaks of lymphoid tissue on the posterior pharynx”
- Tonsillar hypertrophy
- Malocclusion (overbite)
- high-arched palate

CLINICAL MANIFESTATIONS

- On rhinoscopy
  - ❑ swollen, oedematous inferior turbinates
  - ❑ Clear nasal secretions
- Important to exclude :
  - ❑ Deviated nasal septum
  - ❑Polyps
  - ❑Chronic sinusitis
  - ❑Asthma
  - ❑Eczema



INVESTIGATIONS

Phadiotop Assay

- Most reliable labaortory test
- Test detects specific IgE to common aero-allergens
- Sensitivity is 100%
- Specificity 90%
- Should not be used in work-up of patients with food allergy or urticaria

Skin Allergy Test

FX5

- Paediatric food mix
- Common food allergens. :
  - Cow's milk
  - Egg white
  - Codfish
  - Wheat
  - Peanut
  - Soya bean

INVESTIGATIONS

Skin-prick tests

- Reliable, easy to perform
- Rapid results, cost-effective
- Any practitioner trained in technique and interpretation of results
- 9-10 aero-allergens
- Positive and negative control
- Ensure test is explained
- Verbal and ideally written consent
- Forearm, free of inflammation or eczema
- Positive control must produce a wheal
- 15 mins later to view any wheals
- Mean wheal diameter measurement in mm
- >3mm greater than the negative control

Skin Allergy Test

9 ALLERGENS IN A BASIC KIT

- Housedust mite
- Cockroach
- Cat saliva
- Dog epithelium
- Bermuda grass
- Grass mix
- Tree mix
- Individual mould

INVESTIGATIONS

- Total IgE / total eosinophils – not sensitive or specific for AR. May be helpful

- Radiological tests: Can be helpful to detect structural abnormalities or comorbid conditions e.g. sinusitis or adenoid hypertrophy
  - CT to evaluate acute or chronic sinusitis
  - MRI to evaluate acute or chronic sinusitis
  - Lateral neck xray(roentgenogram)

CLASSIFICATION OF ALLERGIC RHINITIS

DURATION OF SYMPTOMS

Intermittent

<4 days/week

< 4weeks /year

Persistent

>4days/week

>4weeks/year

SEVERITY OF SYMPTOMS

Mild

Normal sleep pattern

Normal activities of daiy living,leisure

Normal performance in school/work

No troublesome symptoms

Mod-Severe

Sleep disturbance

Activities of daily living and leisure affected

Impairment in school or work

Troublesome symptoms

MANAGEMENT

- Non pharmacological
- Pharmacological
- Immunotherapy

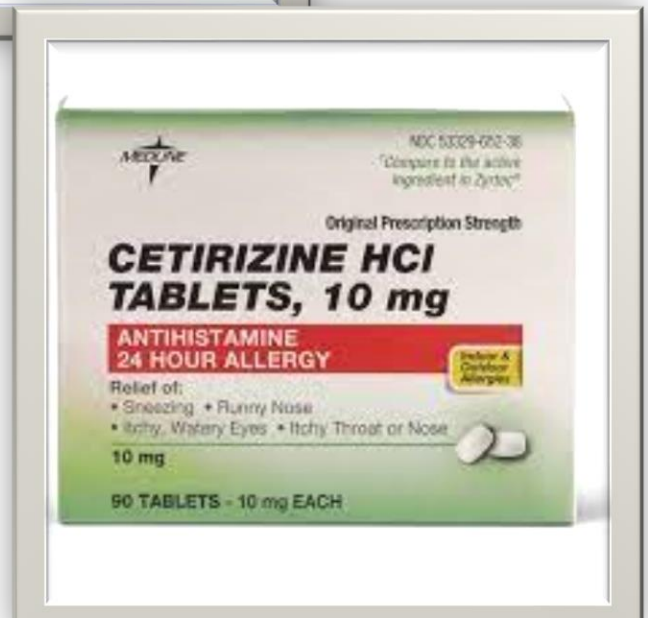
NON PHARMACOLOGICAL

- Patient Education
  - Chronicity
  - Allergen avoidance
  - Appropriate use of medication
  - Compliance

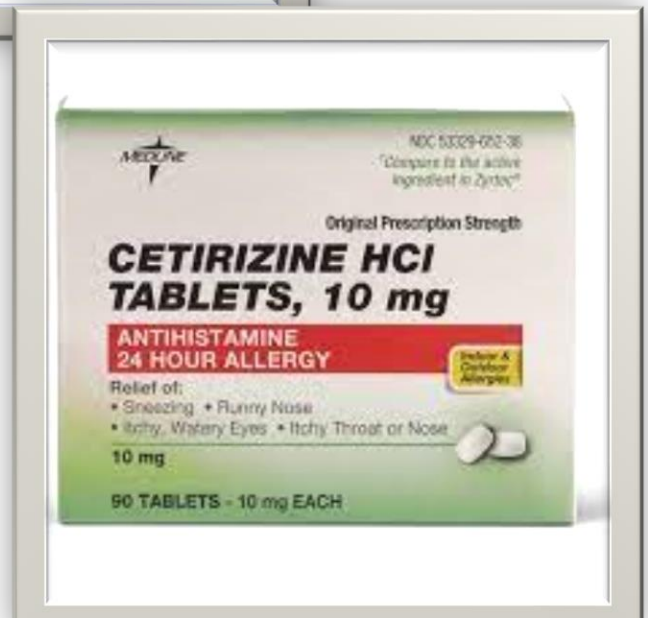
PHARMACOTHERAPY

1. **Intranasal Corticosteroids**

- **First Line therapy**
- **Most Effective Therapy**
- **Rhinorrhoea, Nasal congestion, sneezing, nasal itching**
- **Nozzle direction is important**



PHARMACOTHERAPY



2. Oral Corticosteroids

- **Not considered for first line therapy**
- **Use to be avoided in**
  - ❑ **Pregnant women**
  - ❑ **Pts with contraindications**
  - ❑ **Children**
- **Side effects**
  - ❑ **Fat atrophy**
  - ❑ **Necrosis of femoral head**
  - ❑ **Abscess formation**
  - ❑ **Osteoporosis**

PHARMACOTHERAPY

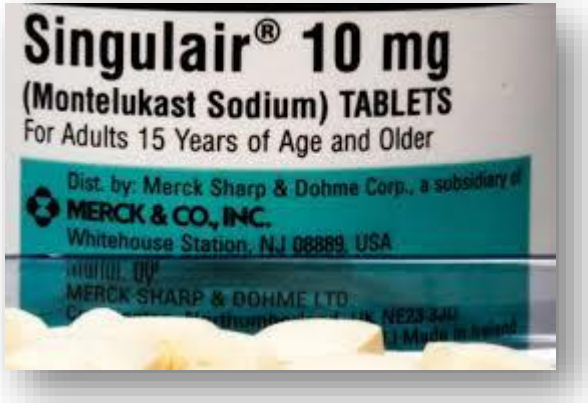
3. Oral antihistamines

- Nasal and ocular symptoms
- Rhinorrhoea, nasal itching and sneezing
- Not for nasal congestion

4. Cromones

- Sodium chromoglycate
- Not as effective as antihistamines and intranasal corticosteroids
- Adherence and efficacy

PHARMACOTHERAPY



5. Leukotrine-Receptor antagonist

- Decongestant but less effective than antihistamine
- Antihistamine – Day time symptoms
- LRA – Night time symptoms

6. Nasal decongestant

- Prolonged use -> Retinosa Pigmentosa
- Not to be used in preschool children

PHARMACOTHERAPY

7.Anti-cholinergics

- Used for rhinorrhea
- Not effective against other symptoms

8. Nasal irrigation

- Adequate, effective and inexpensive
- Flusher
- Removal of inflammatory products
- Improvement of mucociliary clearance

IMMUNOTHERAPY

- Gradually increasing doses of allergen is administered, to attain a state of desensitization
- Resulting in mild reactivity or no symptoms when exposed to the allergen in future
- Subcutaneous injection therapy has been used for allergic rhinitis

SPECIFIC IMMUNOTHERAPY

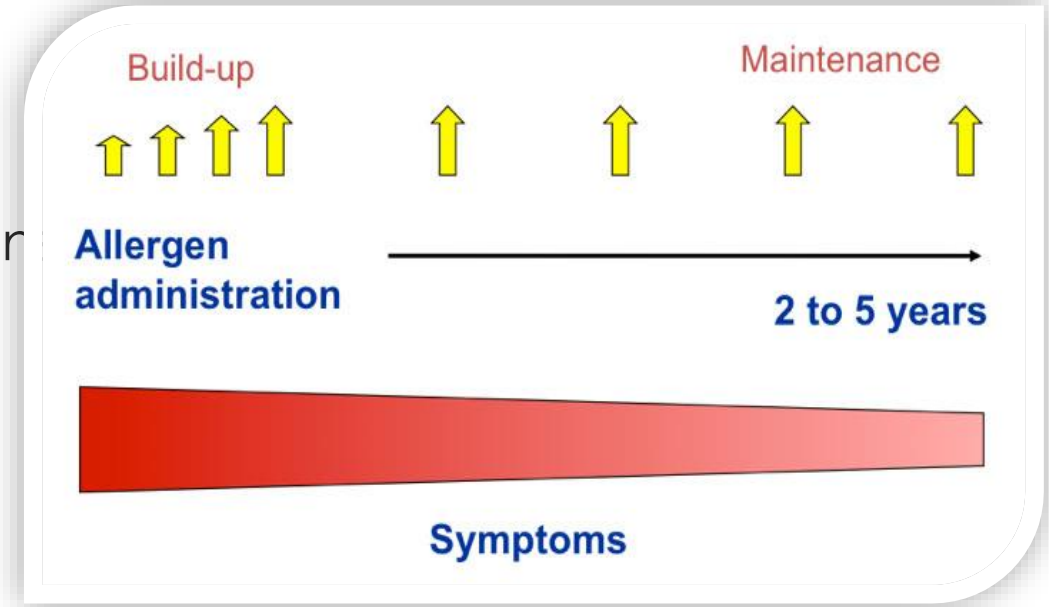
Usually most effective when combined with medication and environment control

Indications :

- severe AR,
- poor response to other management option
- presence of comorbid conditions
- presence of complications

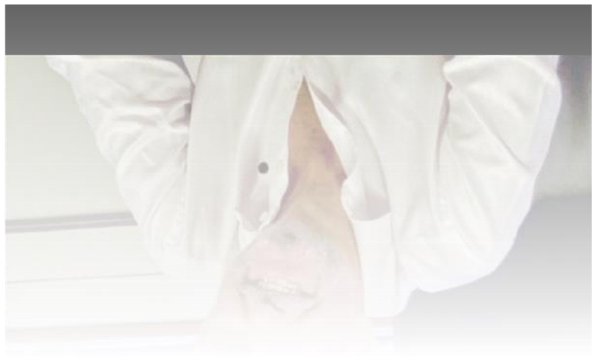
Both SLIT and SCIT effective

SLIT most preferred: safety profile



COMORBIDITIES

- Asthma occurs in 15-38% of patients with AR
- Dysphonia
- Malocclusion
- Sleep Disorders
- Depression
- Anxiety



THIS PRESENTATION DEDICATED TO MY MENTOR : PROFESSOR ROBIN GREEN

BE KIND

BE GENEROUS

BE GENEROUS

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