

# Allergic Rhinitis



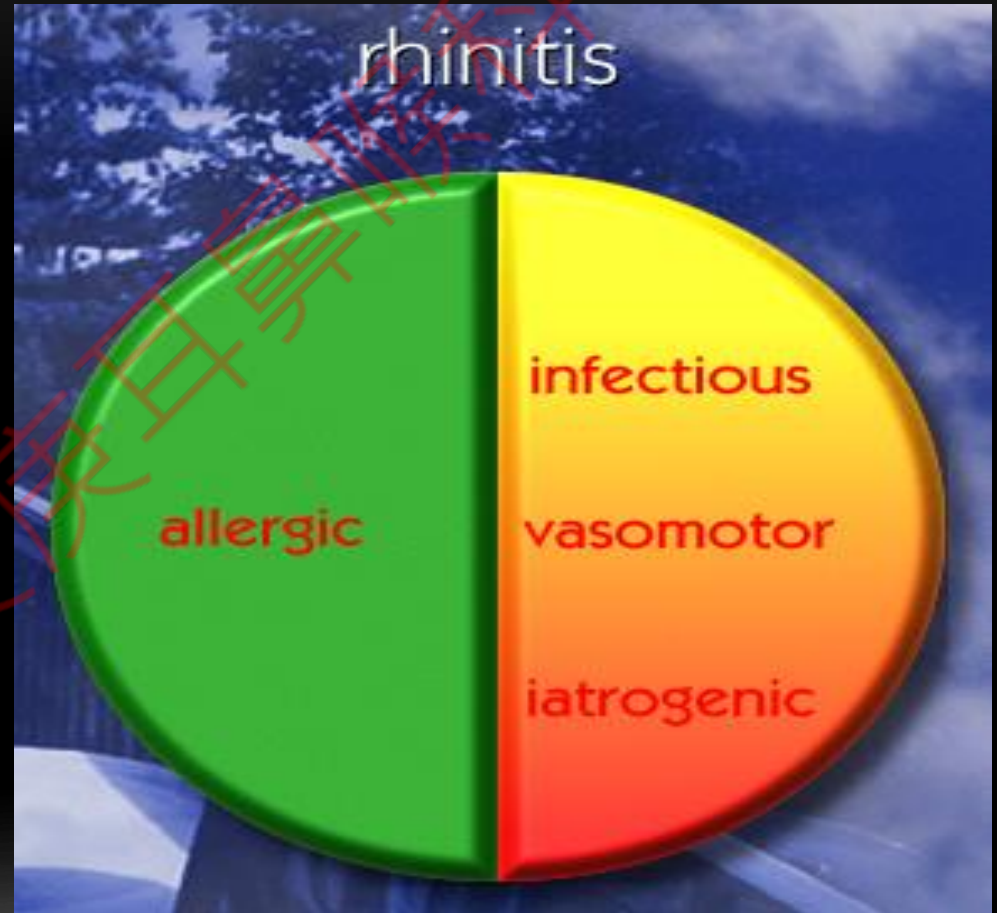
# DEFINITION OF RHINITIS

Rhinitis is inflammation of the lining of the nasal cavity.

As the lining of the nasal cavity and the paranasal sinuses is continuous, inflammatory processes tend to involve both areas to a greater or lesser extent.

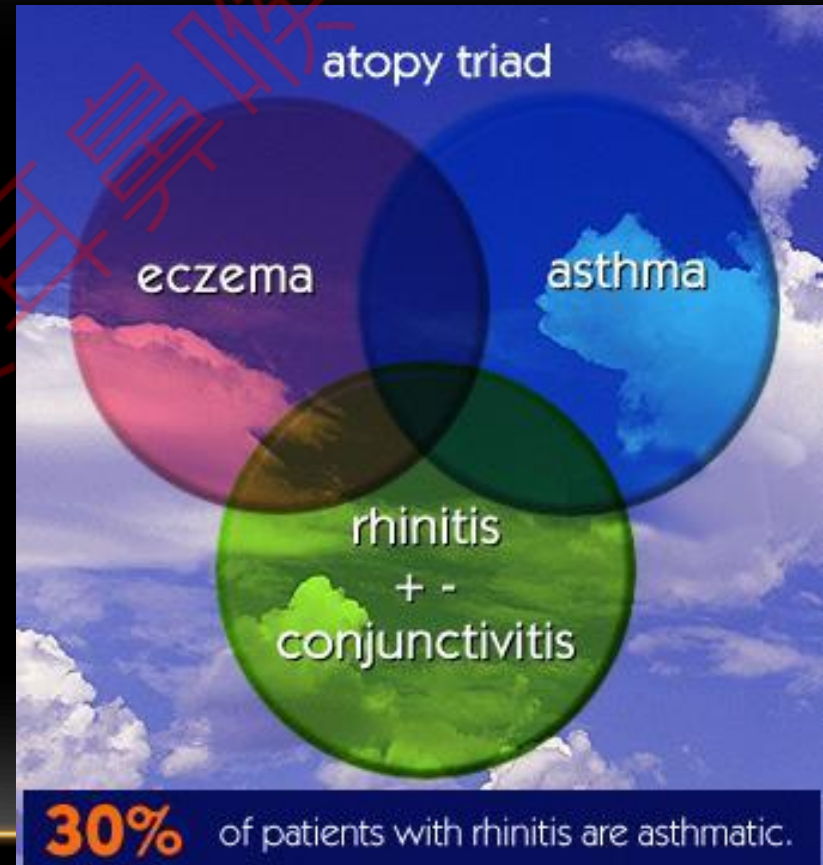
# CLASSIFICATION OF RHINITIS

- Allergy
  - Seasonal ,Perennial, food related ,drug induced
- Infectious
  - Acute
  - Chronic



# ALLERGIC RHINITIS

- Its an IgE mediated hypersensitivity response to allergen lead to rhinitis ,associated allergic conjunctivitis and asthma may occur.



# ALLERGIC RHINITIS CLASSIFICATION

1. Intermittent (Seasonal)
2. Persistent (Perennial)
3. Mild
4. Moderate - severe

# SEASONAL RHINITIS

1. Also known as intermittent rhinitis
2. It usually lasts less than 4 days a week
3. The whole disorder lasts for about a month
4. Usually caused due to exposure to seasonal Allergens like pollen
5. Common during spring when flowers bloom

# PERENNIAL RHINITIS

1. Also known as persistent rhinitis
2. Symptoms last for more than 4 days a week
3. Whole disorder lasts for more than a month
4. This is due to continuous exposure to allergen. eg. House dust mite

## MILD ALLERGIC RHINITIS

Allergic rhinitis is considered to be mild if the symptoms Does'nt cause:

Sleep disturbance

Impairment of daily activity

Impairment of work

Troublesome symptoms



# MODERATE ALLERGIC RHINITIS

This includes one or more of the following:

Sleep disturbance

Impairment of daily activity

Impairment of work

Troublesome symptoms

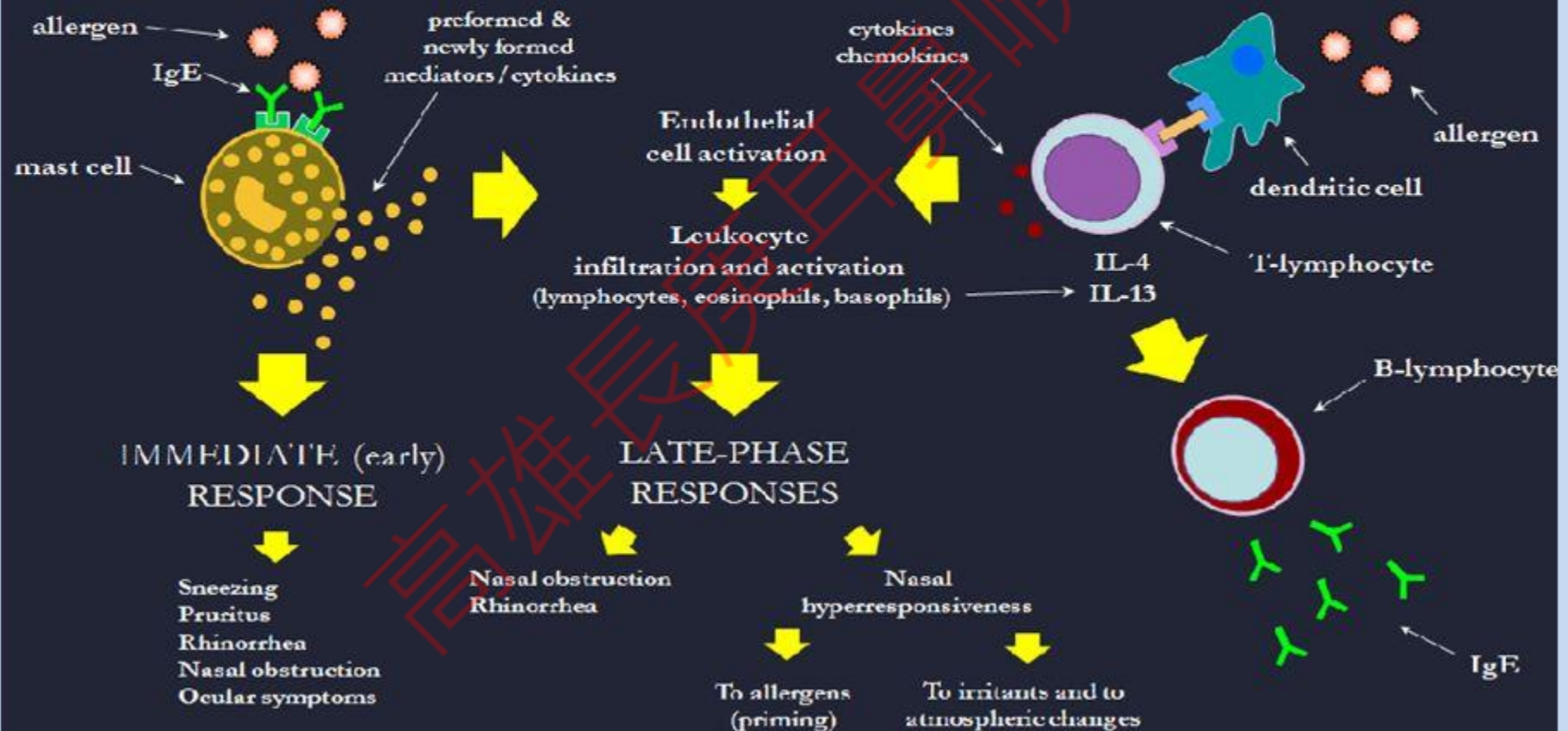
# ALLERGIC RHINITIS PATHOPHYSIOLOGY

The reaction occurs in 4 phases

1. Sensitization
2. Subsequent reaction to allergen – early phase
3. Late phase reaction
4. Systemic activation

# Pathophysiology of Allergic rhinitis

## The nasal allergic response



# PATHOLOGICAL CHANGE

- Local mucosal change
  - edema
  - infiltration with eosinophils and plasma cells
  - watery discharge
  - vascular dilatation
  - polypi
  - Superadded infection
- Involvement of sinuses
  - generalized thickening
  - polypi in the sinuses( single or multiple)
  - fluid effusion in the sinuses

# Etiology of Allergic Rhinitis:





## CLINICAL FEATURES:

- Sneezing , may be in paroxysm.
- Rhinorrhea
- nasal obstruction and loss of smell
- Itchiness of nose , eye, palate
- Tearing , itching , redness of eyes
- Burning sensation in the throat.
- symptom related to asthma  
(cough, shortness of breath, wheeze)

# OCCUPATIONAL ALLERGENS

- Rhinitis may occur as a consequence of allergins inhaled in work place frequently associated with asthma
- Biological agent include flour (in baker ,grain worker), laboratory animal ,wood dust, biological washing powder, latex
- Chemical agent
  - paint manufacturer and painter (spray)
  - platinum salt in platinum refiner
  - drugs in pharmaceutical worker



# FOOD INDUCED RHINITIS

- It' s a rare cause of allergic rhinitis, symptom of rhinitis often associated with urticaria, angioedema and GIT symptom
- Food may occasionally provoke IgE induced rhinitis
- In children Milk, egg, cheese,
- In adult nuts ,fish, shellfish, citrus fruit

# EXAMINATION

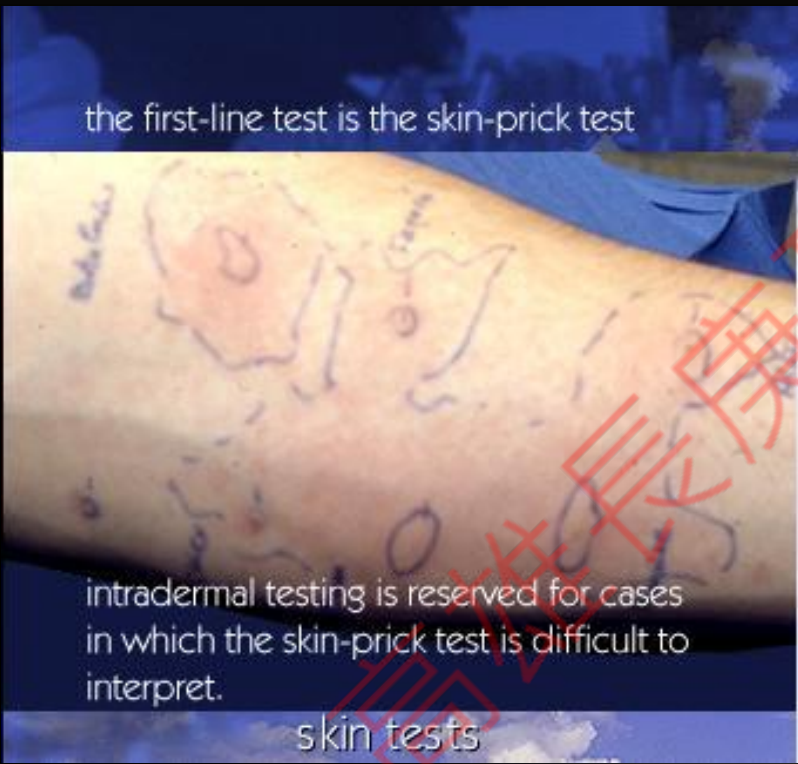
- Local ENT examination :allergic nasal mucosa appear pale or bluish, boggy with swelling and watery discharge. there may be polyp, structural (septal deviation ,prominent turbinate)



# INVESTIGATIONS

- Skin test: it's a primary tool in the investigation of allergy .its positive in seasonal rhinitis ,less than 50%in others
- it consist of pricking skin ,with special needle few drops of allergin .
- Appearance of wheal and flare in 15-20 min ,the size of wheal is usually equal or greater than 3mm and interpreted by positive and negative control
- Antihistamine should be discontinued 3-6 days before test
- Intradermal test is rarely used because of extensive tissue reaction or anaphylaxis

# SKIN PRICK TEST

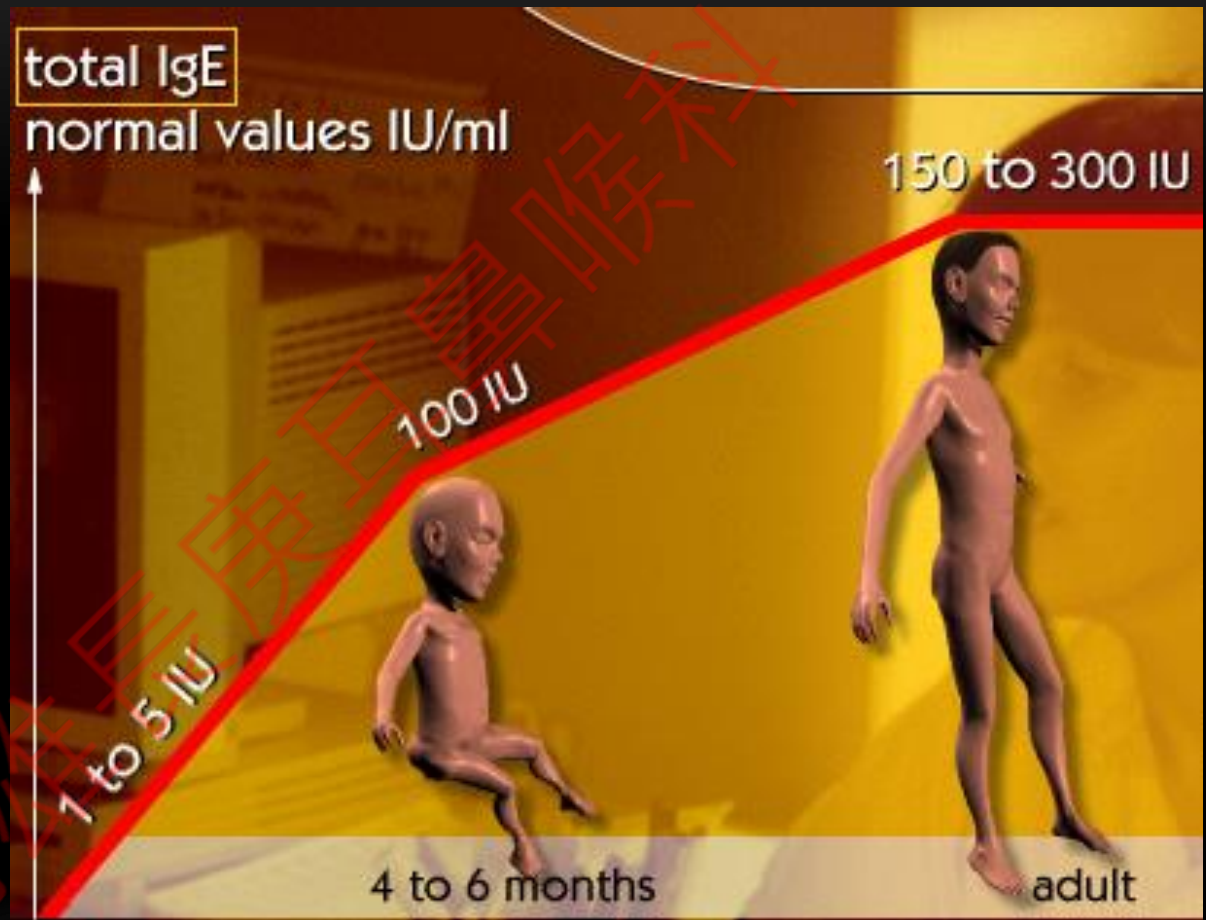


# LABORATORY TESTS:

- Laboratory tests:
  - nasal cytology ,eosinophil count in nasal secretion,blood
  - IgE level measurement (total) Specific(RAST,ELISA, cap test)



- A raised IgE level usually confirm allergic constitution but it is neither sensitive nor specific
- Elevated level seen in smoker and parasitic infestation



# TREATMENT

- Avoidance of allergins .
- Drugs .
- Immunotherapy (desensitization) .
- Surgery .

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Type of drug	Drug and administration
Antihistamines	● Systemic : sedating , non sedating
Steroid	● Topical : beclomethazone, fluticasone ● Systemic (short course)
Alpha receptor agonist (decongestant)	● Topical : pseudoephedrine ● Systemic : xylometazoline
Mast cell stabilizer	● Topical : cromoglycate ● Systemic : ketotifin
Anticholinergic	● Topical : ipratropium ● Systemic : hyoscine
Anticholinergic/ sympathemetic	● Systemic: imipramine , chlorpheniramine



# Desensitization :

- it consist of injection of allergin in increasing dose S.C to be tolerated by the subject.
- Sublingual allergin available ,its popular but less effective .

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# SURGERY

- Polypectomy
- Reduction surgery of inferior turbinate
- Vidian neurectomy

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*Thank you*

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