Allergic Rhinitis

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Definition

An IgE-mediated inflammation

nasal mucosal membrane after

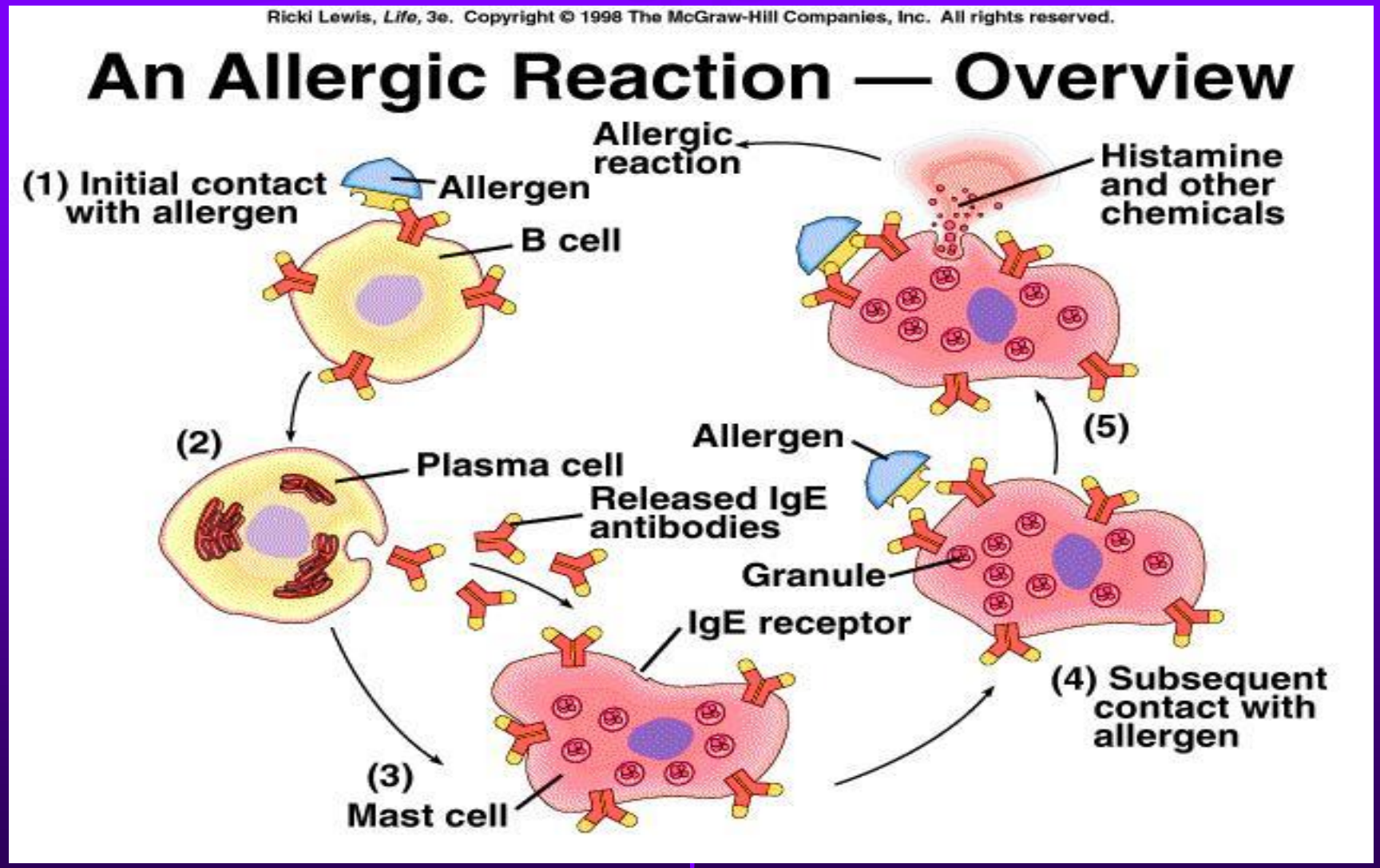
Allergen exposure

Natural History

Onset is common in childhood, adolescence and early childhood .

Symptoms often wane in older adults, but may develop or persist at any age

An Allergic Reaction



The Allergic reaction

Sensitization

Ig E Production

Arming of mast cells

Release of mediators

Clinical effects

Classical Symptoms

- Repetitive Sneezing
- Nasal Congestion
- Watery Rhinorrhea
- Nasal Pruritus

Other Manifestations

- Eye Symptoms
- Ear Symptoms
- Post nasal drip

Link Between Allergic Rhinitis and Other Chronic Disorders

Comorbidities[1,2]

Asthma

Allergic rhinoconjunctivitis

Sinusitis

Otitis media

Complications[1,3]

1. Spector SL, et al. *J Allergy Clin Immunol*. 1997;99:S773-S780.
2. O'Connell EJ. *Allergy*. 2004;78:7-11.
3. Rachelefsky GR. *Ann Allergy Asthma Immunol* 1998;82:1-10

AR and Asthma

Approx. 80% of patients with asthma have accompanying symptoms of rhinitis

ALLERGIC RHINITIS (ARIA)

Intermittent symptoms

< 4 days per week

Or < 4 weeks

Persistent symptoms

> 4 days per week and > 4 weeks

Moderate-severe one or more items

- Abnormal sleep.
- Impairment of daily activities, sport, leisure.
- Problems caused at school or work.
- Troublesome symptoms.

Mild

- Normal sleep.
- Normal daily activities.
- Normal work and school.
- No troublesome symptoms.

DIAGNOSIS

History and Examination

Skin prick test

Radio allergoabsorbent tests for specific IgE (RAST)

Other Causes of Rhinitis in Children

Infection

Viral, bacterial,

Rhinosinusitis

Foreign body in the nose

Rhinitis associated with physical or chemical factors

Drug, food induced rhinitis

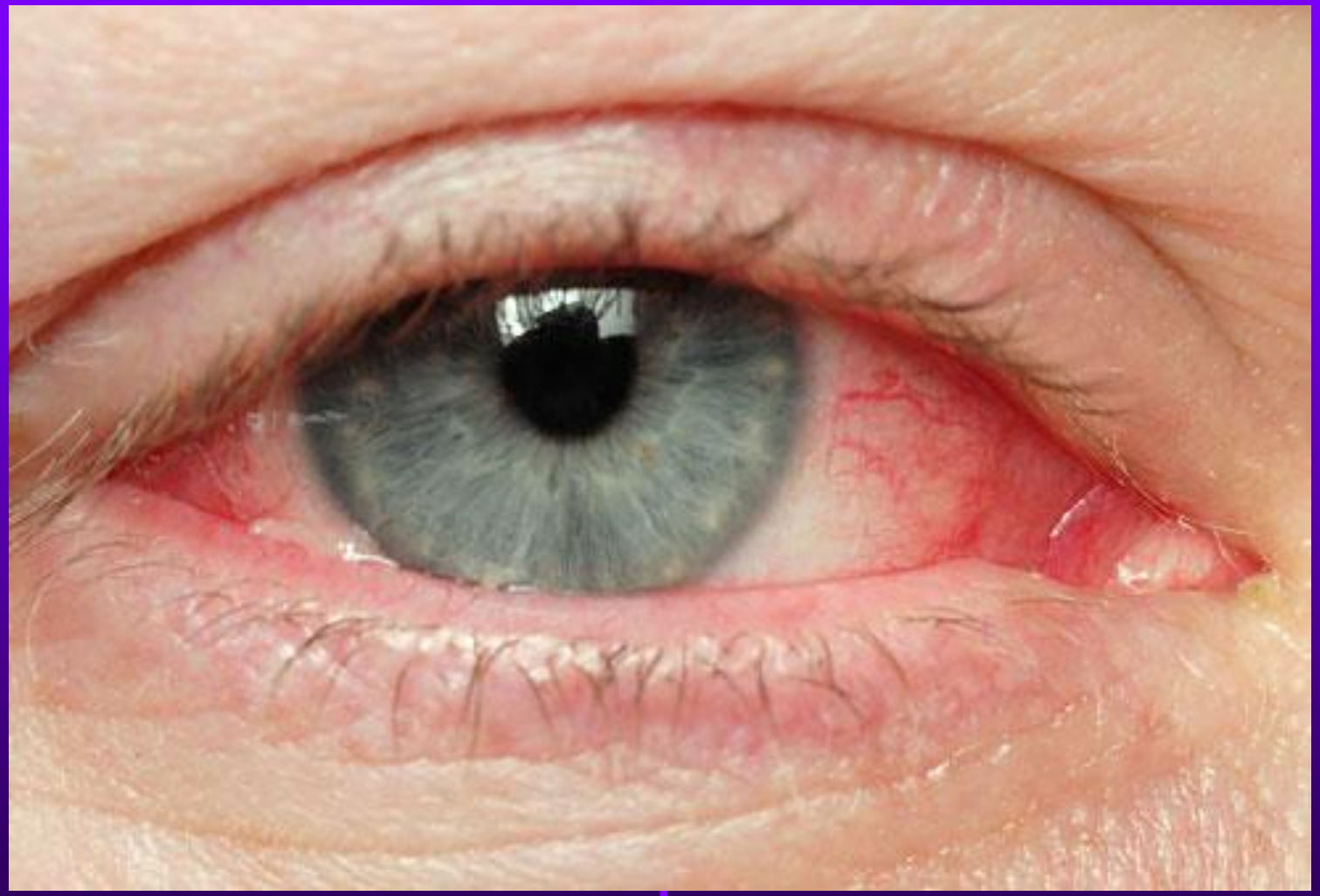
NARES, aspirin sensitivity

Vasomotor rhinitis

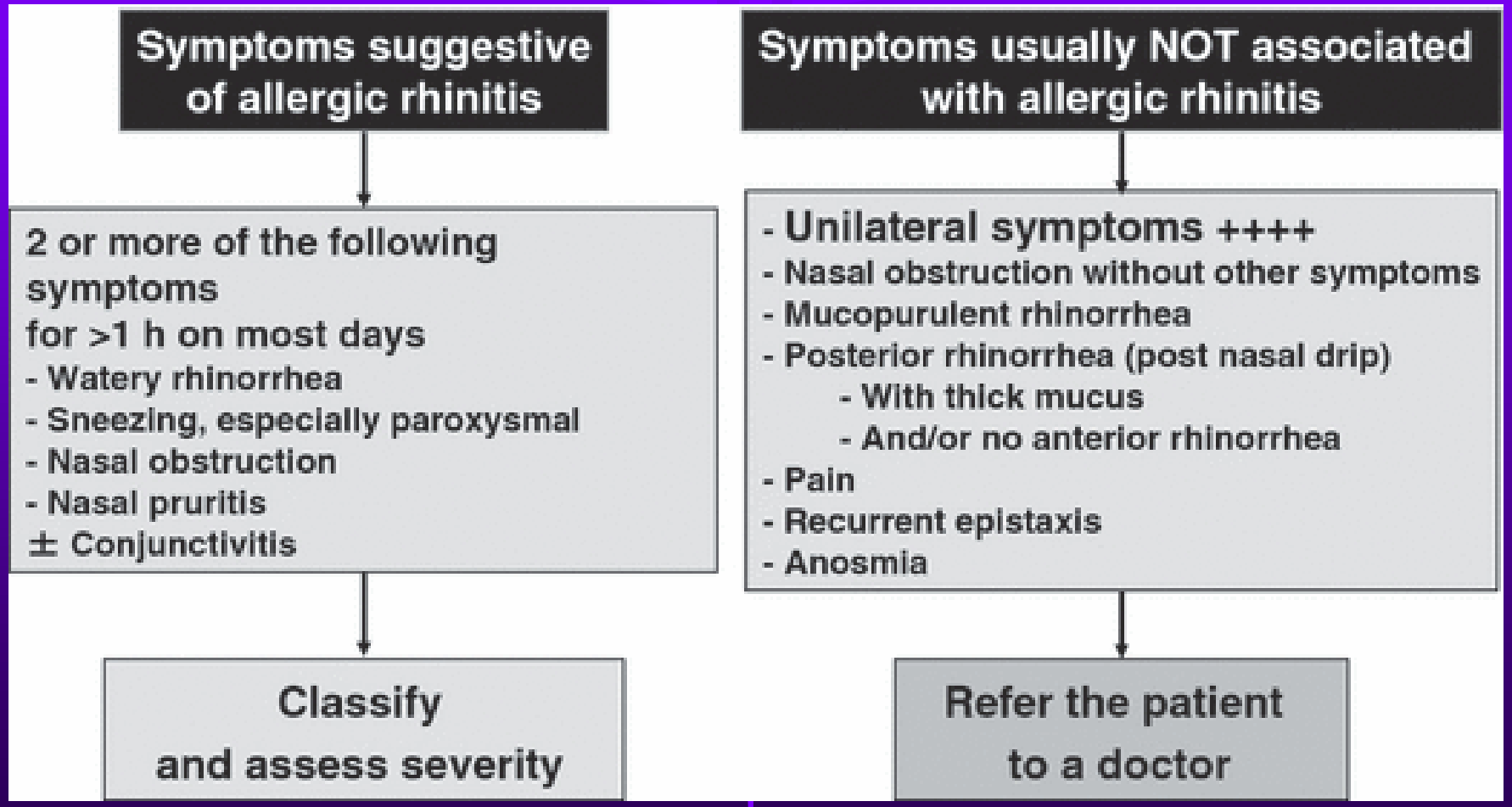
Allergic Shiners

Allergic Salute and Crease

Allergic Conjuctivitis

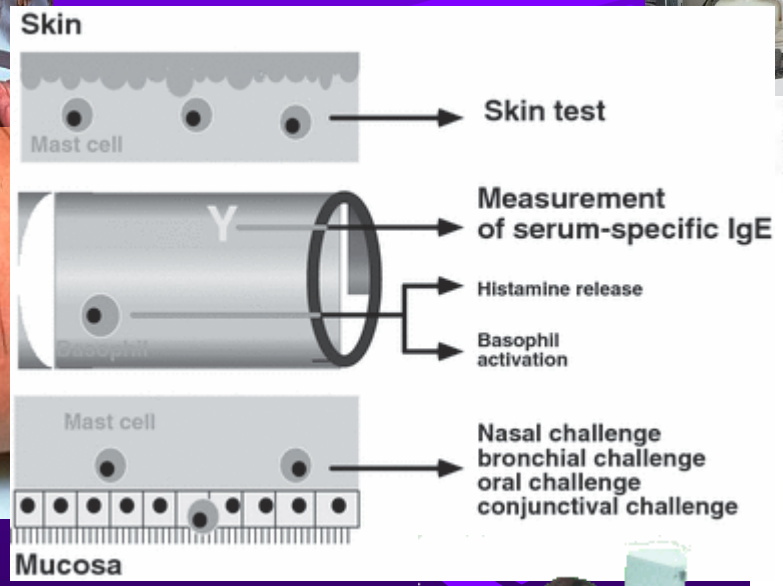


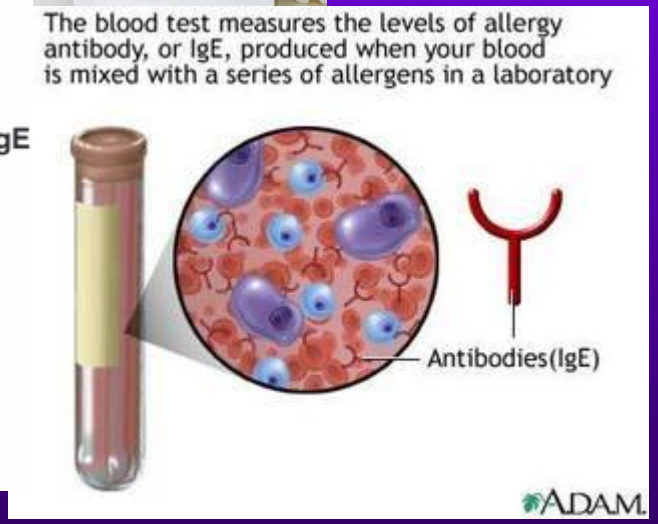
Diagnosis in Primary Care Setting



Diagnosis of Allergic Rhinitis

Demonstration of IgE allergy





Management of allergic rhinitis

The management of allergic rhinitis involves the following components:

1- Allergen avoidance

2- Pharmacotheray

3- Allergen immunotherapy: helps prevent the development of

asthma in children with AR

Mild intermittent rhinitis

ARIA

Options (not in preferred order)

- oral or intranasal anti-H1
- intranasal decongestants
- oral decongestants (not in children)

Moderate-severe intermittent rhinitis

Mild persistent rhinitis

ARIA

Options (not in preferred order)

- oral or intranasal anti-H1
- oral anti-H1 + decongestant
- intranasal CS
- (chromones)

Patient should be re-assessed after 2-4 wks

Moderate-severe persistent rhinitis

ARIA

Step-wise approach

- intranasal CS as a first line treatment
- if major blockage: add short course of oral CS or decongestant

Re-assess after 2-4 weeks

- if symptoms present add:
  - oral anti-H1 (± decongestants)
  - ipratropium

Conjunctivitis rhinitis

ARIA

Options (not in preferred order)

- oral or ocular anti-H1
- ocular chromones
- saline

Do not use ocular CS without care and eye examination

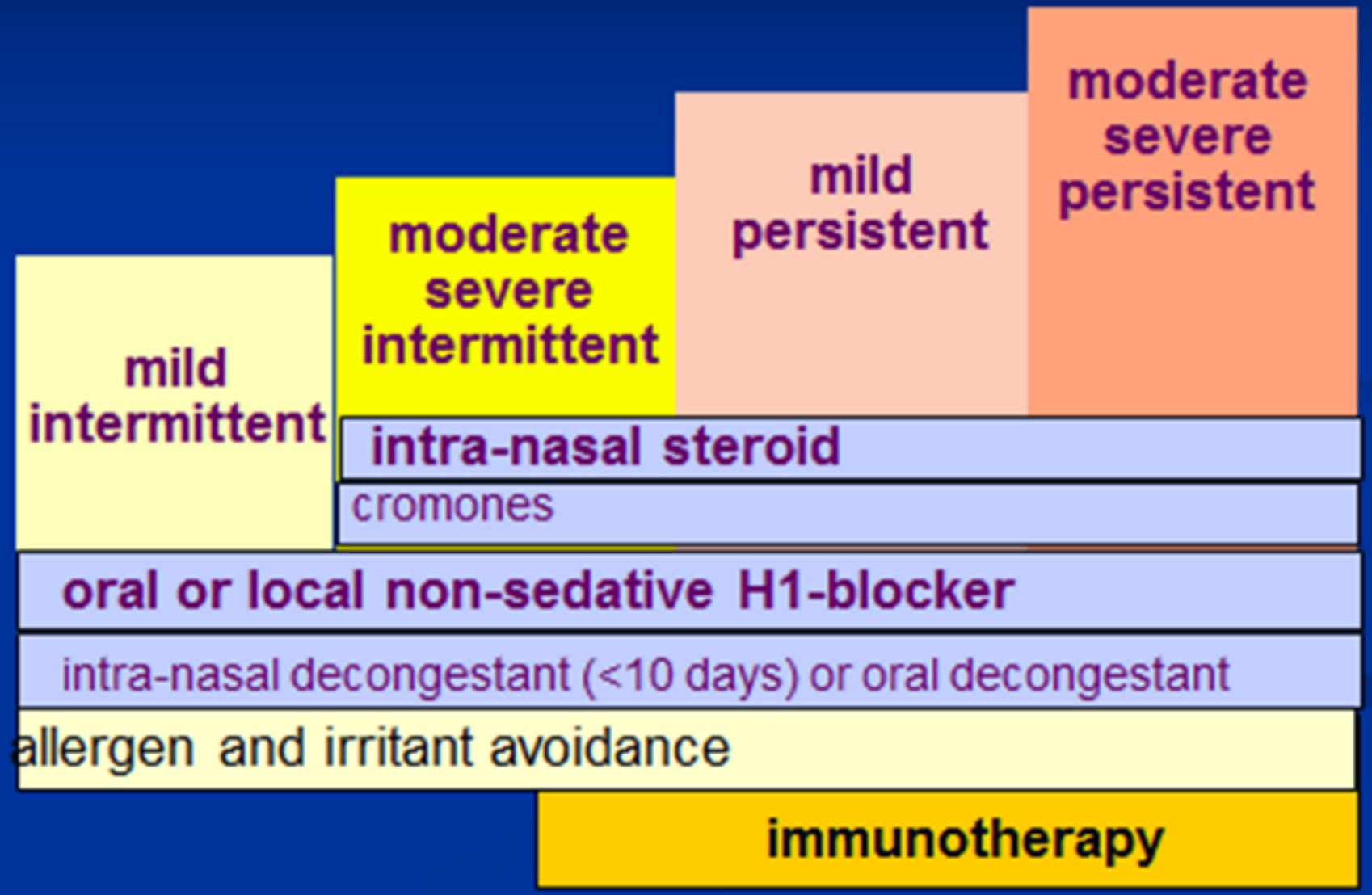
ARIA in low-income countries

Stepwise treatment proposed

- **Mild intermittent rhinitis:** oral antihistamine
- **Moderate/severe intermittent rhinitis:** BDP low dose ± oral antihistamine
- **Mild persistent rhinitis:** oral antihistamine or low dose BDP
- **Moderate/severe persistent rhinitis:** high dose BDP. Consider adding oral antihistamine ± oral steroids (short course)

Treatment of allergic rhinitis (ARIA)

Allergic Rhinitis and its Impact on Asthma



Nasal Corticosteroids

- Most potent anti-inflammatory agents

- Effective in treatment of all nasal symptoms
- including obstruction

- Superior to anti-histamines and anti-leukotrienes
- First line pharmacotherapy for persistent allergic rhinitis

Intra-nasal Steroids

Work mostly locally, thus avoid unwanted side effects associated with their oral or I/V use

- Newer formulations show even lower systemic absorption
- Most effective against late-phase mediators with some effect on acute phase response.

Oral Antihistamines

First generation agents

Chlorpheniramine

Diphenydramine

Promethazine

Hydroxyzine

Clemastine

Newer agents

Cetirizine

Desloratadine

Fexofenadine

Levocetirizine

Loratadine

Newer Generation Oral Antihistamines

First line treatment for mild allergic rhinitis

Effective for:

Rhinorrhea
Nasal pruritus
Sneezing

Less effective for:

Nasal blockage

Minimal or no sedative effects

Once daily administration

Rapid onset and 24 hour duration of action

Drug and Symptom Matrix

Drugs and Symptoms	Sneezing	Itching	Rhinorrhea	Congestion
Antihistamines	*****	****	***	
Anticholinergics (Ipratropium bromide)			*****	
Corticosteroids	*****	*****	***	***
Decongestants				*****
Mast Cell Stabilisers	*****	***	*	
Antileukotrines	***	**		****

Immunotherapy

Involves the sequential administration of antigen to patients with symptomatic, atopic conditions to induce tolerance to offending antigens

Effective in treatment of both AR & Asthma

Generally safe and well tolerated

Summary…

Allergic rhinitis is associated with several

co-morbidities and affects quality of life

Second generation antihistamines are recommended

for treatment of allergic rhinitis in adults and children

Recommendations

1- Patients with persistent rhinitis should be evaluated for asthma

2- Patients with persistent asthma should be evaluated for rhinitis

3- A strategy should combine the treatment of upper and lower airways in terms of efficacy and safety

Thankyou !!!!!!