

عَلَّمَ الْكُتُبَ وَتَرَكَ الْبُحْرَانَ



Rhinitis in children



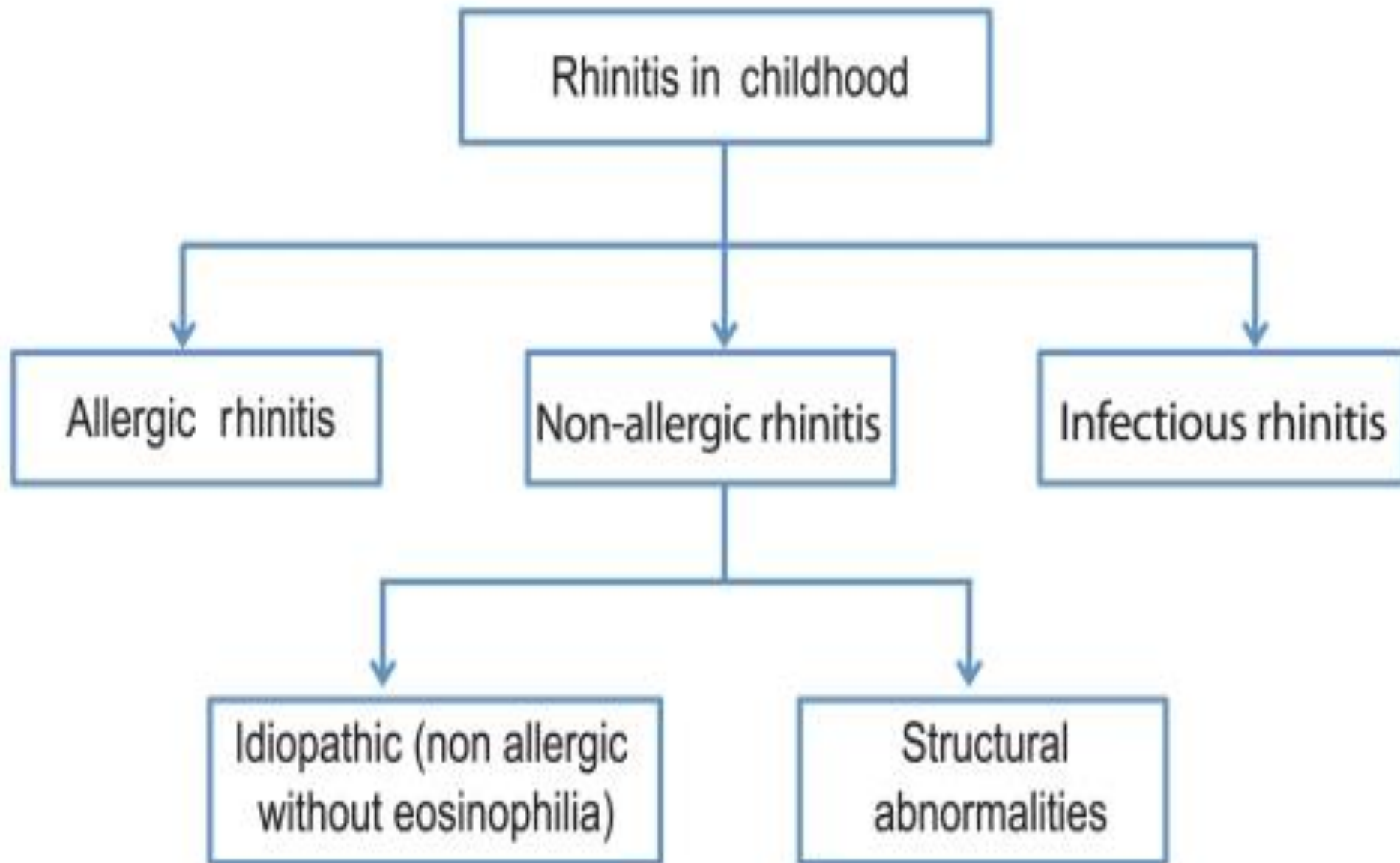
دکتر شهلا افشارپیمان
فوق تخصص بیماریهای عفونی کودکان
استاد دانشگاه علوم پزشکی بقیه الله الاعظم (عج)

Definition

- ▶ Rhinitis has been defined as a disease of the **nasal lining presenting with symptoms of nasal itch, sneezing, runny and/or blocked nose**
- ▶ Allergic rhinitis is clinically defined as a symptomatic disorder of the nose induced by an **IgE-mediated inflammation after allergen exposure** of the membranes lining the nose

Prevalence

- ▶ The prevalence of rhinitis in **preschoolers 0-6 years old varies** considerably and this may be in part related to the definitions and age groups included in each study.
- ▶ The prevalence of rhinitis symptoms in preschool age groups ranged **from 2.8% to 42.7%**
- ▶ This wide variation in rhinitis prevalence is very similar to data in school aged children.
- ▶ The studies from **Singapore** show that the prevalence of rhinitis in preschoolers is substantial with **prevalence of 25.3% in the 4 to 6 year age group** and a cumulative prevalence of **42.7%** in the 2 year age group



Infectious rhinitis

- ▶ Viral infection
- ▶ respiratory viruses are commonly detected in infants and young children with rhinorrhea
- ▶ Sinusitis often co-exists with rhinitis and the term '**rhinosinusitis**' has been coined to reflect this.
- ▶ Clinical symptoms of discharge (**mucopurulent**), nasal obstruction, headache and facial pain, and ear pain and pressure are common symptoms of sinusitis

Allergic Rhinitis

Allergic rhinitis is clinically defined as a symptomatic disorder of the nose induced by an **IgE-mediated inflammation after allergen exposure** of the membranes lining the nose

Allergic Rhinitis: Classification

Intermittent

- < 4 days per week
- or < 4 weeks

Persistent

- > 4 days per week
- and > 4 weeks



Mild

- Normal sleep
- No impairment of daily activities, sport, leisure
- Normal work & school
- No troublesome symptoms in untreated patients

Moderate-Severe

one or more items

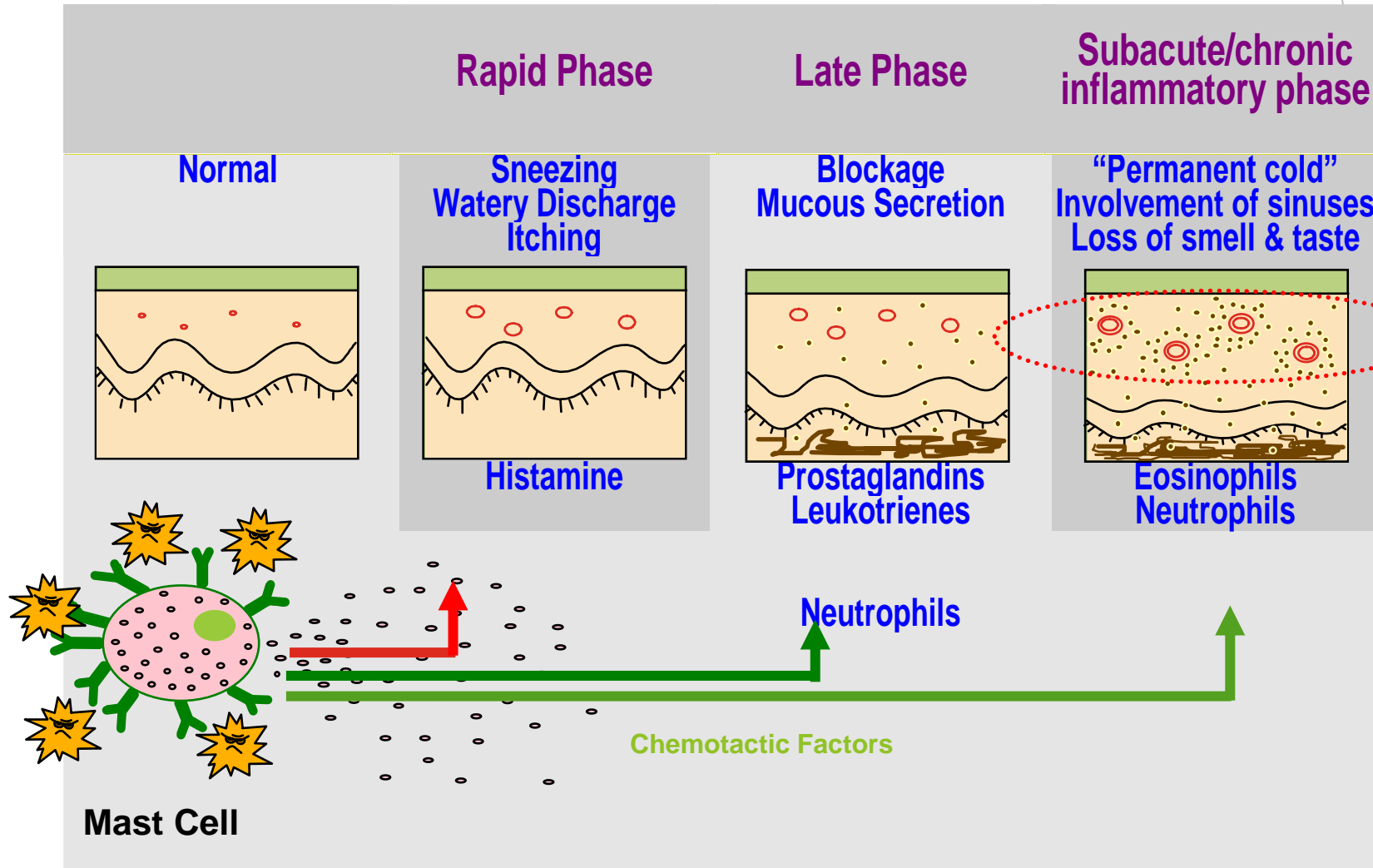
- Abnormal sleep
- Impairment of daily activities, sport, leisure
- Abnormal work and school
- Troublesome symptoms

Predisposing factors

- ▶ Intrinsic factors such as **male gender, presence of atopy markers** (serum IgE and eosinophil count), personal history of eczema or wheeze and allergen sensitization
- ▶ **Various environmental factors** were found to increase the risk of rhinitis in children <6 years old. **Pollution factors** such as environmental **tobacco smoke** (ETS) exposure, **moulds**, and traffic pollution seem to be an important risk of rhinitis
- ▶ **Dietary patterns** may have protective effects.
- ▶ Breast feeding

- ▶ Interestingly a study was done to assess the correlation between maternal vitamin D intake during pregnancy and AR outcome at 5 years old where maternal vitamin D intake from food protected against rhinitis

Phases of allergy: PINE or MPI

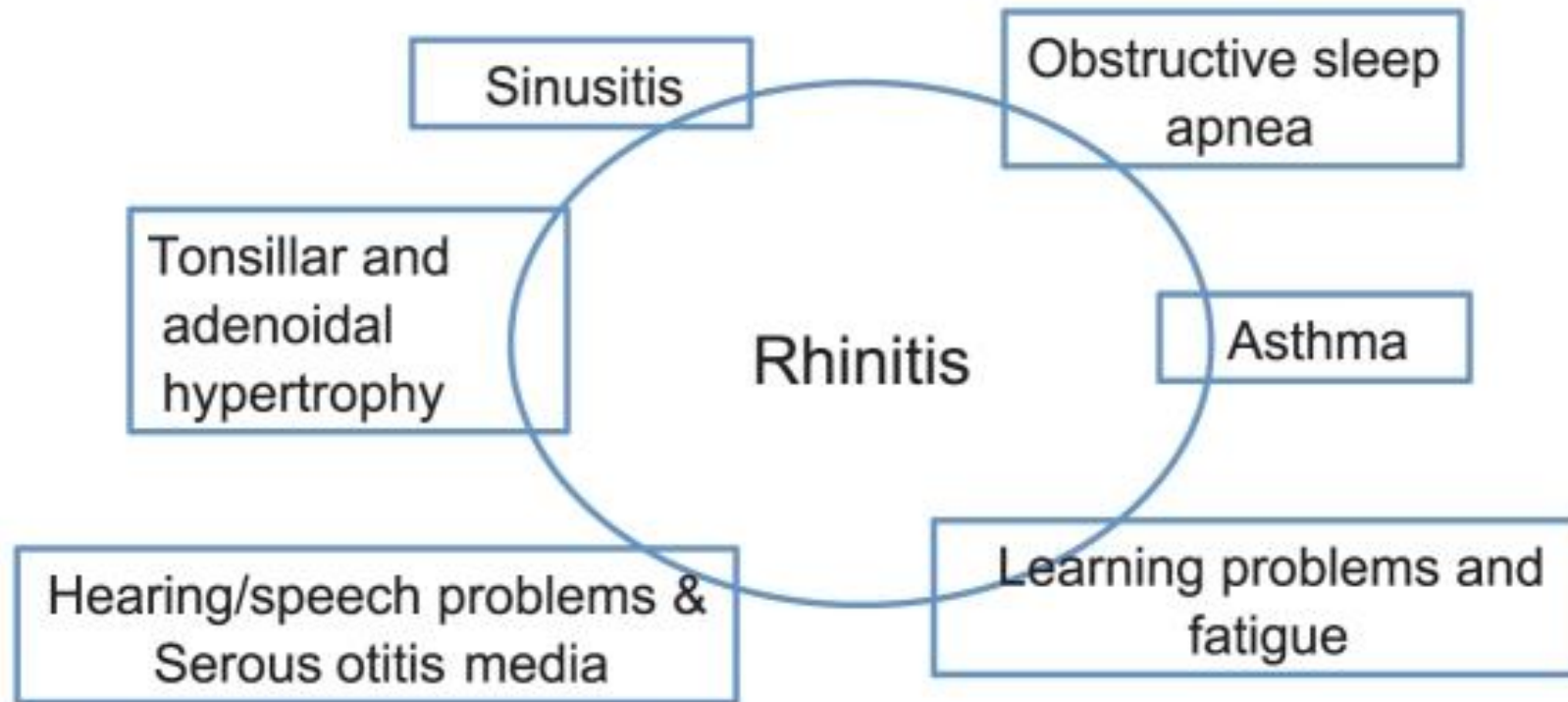


Allergic Rhinitis in children

- ▶ Pediatric rhinitis: Range of symptoms

- ▶ Cough
- ▶ Sneezing
- ▶ Nasal pruritus
- ▶ Nasal congestion
- ▶ Sore throats - recurrent infections
- ▶ Halitosis
- ▶ Respiratory distress - infant
- ▶ Behavioral problems

comorbidity



AR and Sinusitis in children

- AR and Sinusitis frequently co-exist and are definitely linked
- Pediatric sinus disease is characterized histologically by marked tissue eosinophilia, with mast cells expressing the activation marker
- There has been an ↑ in association between AR, positive skin tests, and sinusitis

Children with chronic cough

Cough-Variant Asthma

- ▶ Nocturnal cough in poorly controlled asthma
- ▶ No history of wheezing
- ▶ Responsive to bronchodilator therapy

Cough Variant Rhinitis

- ▶ Cough esp. nocturnal and post nasal drip
- ▶ Responsive to allergen avoidance; non-sedating long acting antihistamines; and/or intranasal steroids
- ▶ Misdiagnosis may lead to overtreatment inhaled steroids, β 2 agonists and oral steroids

AR and Otitis media in children

- OME refers to a non infectious condition of the middle ear, usually accompanied by Eustachian tube dysfunction with accumulation of serous fluid
- Allergy as a risk factor for OM*
- Atopic children more susceptible to both symptomatic AOM & asymptomatic OME*
- 40-50 % of children > 3 years with chronic OM have confirmed AR
- Presence of higher levels of IgE in the middle ear of allergic children than levels found in the serum at the same time

AR & obstructive sleep apnea

- Children with AR usually have lymphoid hypertrophy, particularly evident in the cervical lymph node chain & adenoids
- Children with AR often become mouth-breathers and snore at night as a result of nasal obstruction and adenoidal hypertrophy
- The pediatrician must consider the possibility of AR in the assessment of snoring children

