

Allergic Rhinitis

Wednesday, October 15, 2014
8:10 PM

ALLERGIC RHINITIS - IgE & inflammatory mediator response

Hayfever	Adults > Children
All	Children > Adults

Predisposing Factors:

- family history (allergies, eczema, asthma)
- allergen exposure
- IgE > 100 (before 6yrs old)
- sheltered
- 2nd hand smoke
- eczema

Seasonal vs. Perennial:

SEASONAL	PERENNIAL
"hayfever" grass, tree, weed	- dust mites - pet dander - cockroaches - mold (less common)

Immune Response to Allergens:

SENSITIZATION	Exposure 1	B/T-cells process Ag, IgE binds MastCell	NO rxn
ALLERGIC RESPONSE	Exposure 2	Ag binds IgE-MastCell	rxn

EARLY	5-15 min	Allergen Exposure --> <u>Degradation</u> --> <u>Performed</u> (Histamines, Proteases) --> <u>Neosynthesis</u> --> <u>Newly Generated</u> (Prostaglandins, Interleukins, etc)	--> - <u>Rhinorrhea</u> - <u>Pruritis</u> - <u>Sneezing</u> - (Congestion)
LATE	3-12 hrs	Allergen Exposure --> <u>Cellular Infiltration</u> --> - Eosinophils - Basophils --> INFLAMMATION --> <u>Congestion</u> - Monocytes - Lymphocytes	

PRIMING EFFECT - prolonged exposure to allergen causes hypersensitivity

Symptoms:

- sneezing
- watery/clear rhinorrhea
- postnasal drip
- conjunctivitis
- itching
- congestion
- (fatigue)
- (anxiety)
- (depression)

Complications:

- disturbed sleep
- fatigue
- poor performance
- loss of smell, taste
- cough/hoarseness
- otitis media (inner ear)
- facial/dental
- asthma
- nasal polyps
- nose bleeds

Diagnosing:

- history
- physical exam (crease, shiners, pale/bluish)
- nasal scrapings
- allergy testing

Allergy Testing:

- **PERCUTANEOUS (SKIN PRICKS)** - positive & negative controls; "wheal&flare" = IgE rxn
- **INTRADERMAL** - injected between layers of skin
- **RADIOALLERGOSORBENT TEST (RAST)** - blood test for IgE for specific allergen