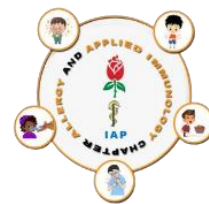


Practice Parameter: Algorithmic Management of Chronic Rhinosinusitis



Indian Academy of Pediatrics – Allergy and Applied Immunology

Chapter

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Introduction

Brief overview defining CRS as inflammation of the nose and paranasal sinuses, with clinical and diagnostic criteria.

I. Definition of Rhinosinusitis

- Inflammation characterized by ≥ 2 symptoms, one of which should be nasal obstruction/blockage or nasal discharge (anterior/posterior), $\pm$ facial pain/pressure, $\pm$ smell loss.
- Endoscopic signs: Nasal polyps, mucopurulent discharge, edema/mucosal obstruction.
- CT imaging: Osteomeatal complex mucosal changes.

II. Acute vs Chronic Rhinosinusitis

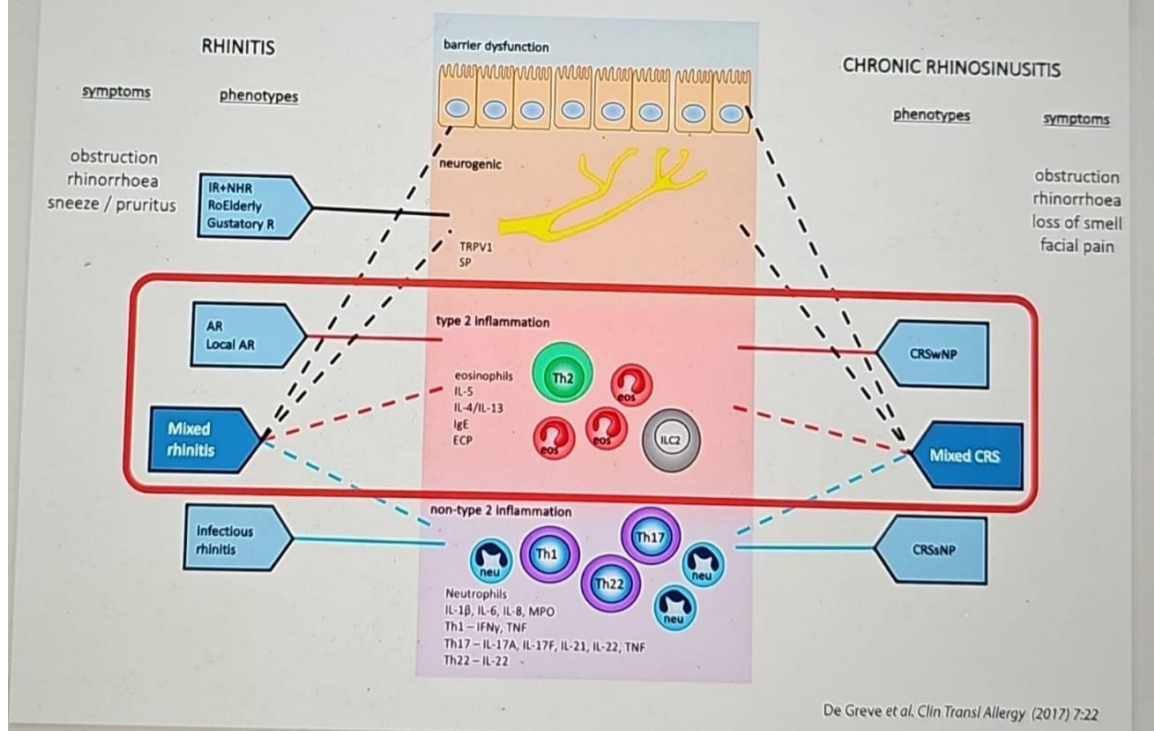
Type	Duration	Common Causes	Treatment Principles
Acute	10 days to <3 months	Viral (98%), Acute bacterial rhinosinusitis (ABRS)	Self-care, analgesics, short-course antibiotics if indicated
Chronic	≥ 3 months	Multiple phenotypes/endotypes	Intranasal corticosteroids, macrolides, surgery in refractory cases

III. CRS Phenotypes and Endotypes

Phenotype	Characteristics	Management Considerations
With nasal polyps (CRSwNP)	Nasal obstruction, smell loss	Steroids, surgery, biologics
Without nasal polyps (CRSSNP)	Heaviness, facial pain, discharge	Macrolides, treat infection

Endotypes & Phenotypes in CRS :

Endotypes & Phenotypes in CRS



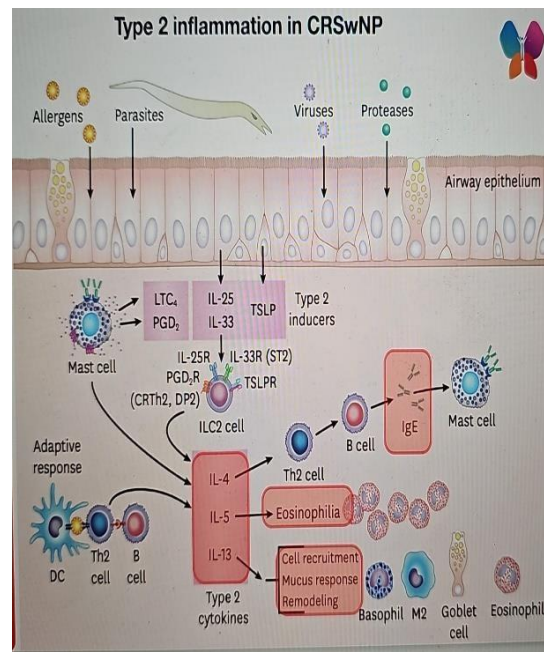
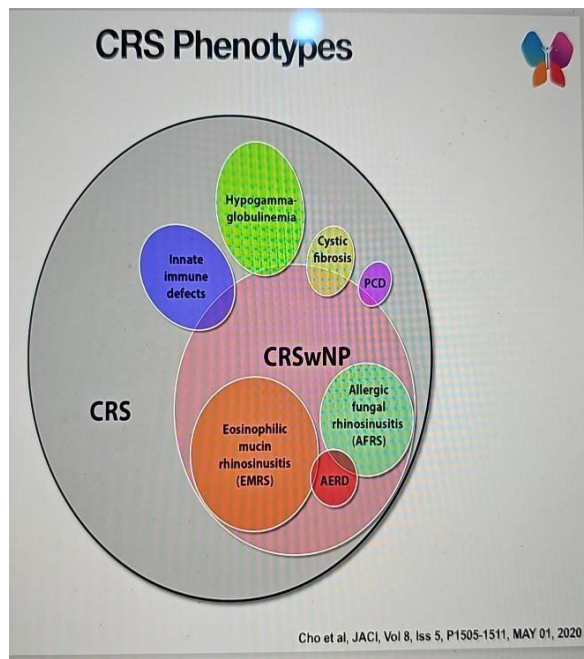
Phenotypes of Chronic Rhinosinusitis

With nasal polyp (CRSwNP)

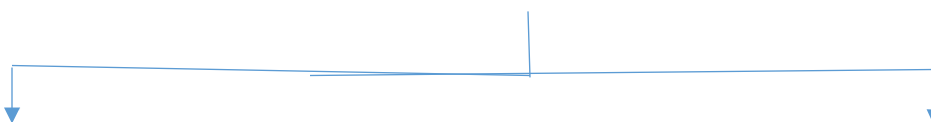
- Symptoms – nasal obstruction
smell
- Cellularity – Eosinophilic predominance
- Respond to Steroids
- Associated with – Asthma (Atopy)
Cystic Fibrosis
Churg - Strauss syndrome
Ciliary Dyskinesia
Sarcoidosis
AFRS, AERD

without nasal polyp (CRSsNP)

- heaviness in the head
- Loss of smell
- facial pain, post nasal discharge
- Neutrophilic Predominance
- Respond to Macrolides
- Immunodeficiency disorders
- Biofilms



CRSwNP



Unilateral

Refer to ENT surgeon

Biopsy with caution to be taken

Diffuse

ATOPY – ALLERGY TESTS

AFRS & AERD

AFRS & AERD – CT scan – Pan Sinus opacification (In AFRS – Double density sign)

Endoscopy – thick granular mucin (peanut butter appearance in AFRS)

IV. Investigations

Test	Purpose
DNE (Diagnostic Nasal Endoscopy)	Visualization of polyps, discharge
CT Nose & PNS	Structural changes, opacification
Biopsy	Exclude neoplasia or fungal disease
Allergy Testing	Identify allergic triggers
Aspirin Challenge	Diagnose AERD
Immune Workup (IgG, IgA, IgM)	Detect immunodeficiency

V. Management Algorithm

Step Action

- 1 Intranasal corticosteroids (Mometasone, Fluticasone)
- 2 Oral corticosteroids (short course in CRSwNP)
- 3 Macrolide antibiotics (e.g., Doxycycline 20-day course)
- 4 Saline nasal irrigation (with or without surfactants)
- 5 Antihistamines if allergy is present
- 6 Leukotriene inhibitors for coexisting asthma/AERD
- 7 Biologics: Omalizumab, Mepolizumab
- 8 Immunotherapy in selected patients
- 9 Aspirin Desensitization in AERD
- 10 Surgery (Adenoidectomy, Turbinoplasty, ESS) in refractory cases

VI. Conclusion

Structured approach using history, investigations, and stepwise management ensures effective CRS control. Culturally appropriate education improves adherence and outcomes.

Suggested Reading

1. Scott Brown's Otolaryngology, 8th Edition
2. EPOS 2020 Guidelines