Treatment Options for Chronic Sinusitis

Robert Roberts D.O.
Mt Scott ENT & Sleep Medicine
9280 SE Sunnybrook Blvd
Clackamas, OR 97015

broberts@mtscottent.com
Objectives

- Review the pathophysiology of Chronic Sinusitis
- Understand how to interpret imaging findings.
- Develop a game plan for medical management
- Clarify when surgery is appropriate and what surgical options are available
Chronic Sinusitis Overview

- A clinical syndrome associated with significant inflammation of the mucosa of the nose and paranasal sinuses lasting 12 weeks or longer.
Chronic Sinusitis

Prevalence

- 900,000 patients not successfully treated
- Therapeutic Success: 7M seek prescriptions, 1.4M fail medications annually; Only 35% of these undergo surgery
- Prevalence: Afflicts estimated 37M U.S.; More common than heart disease or asthma; Results in 18-22M physician office visits annually
- Quality of Life: More debilitating than congestive heart failure or chronic back pain

Sources
Diagnosis

- Diagnosis is based on a combination of historical, exam, and imaging findings.

- Major factors included facial pain or pressure, nasal obstruction or blockage, nasal discharge or purulence or discolored postnasal discharge, hyposmia or anosmia, purulence in nasal cavity, and fever.

- Confirmation with endoscopic exam and/or CT findings
Pathophysiology

- Inhibition of the normal mucociliary clearance mechanism either by acute inflammation or mechanical obstruction

  ↓

- Stasis of secretions and chronic bacterial infection

  ↓

- Chronic inflammation and mucociliary inhibition
Pathophysiology

- At the chronic stage, multiple pathogens are often present, including staph, gram negative rods, and anaerobes

- Biofilms may play a role in maintaining chronic infection

- Role of chronic osteitis unclear

- Unilateral sinusitis need to consider mechanical obstruction from tumor, polyps, fungus, nasal anatomy.
Pathophysiology - non infectious causes of inflammation

- Allergy
- GERD
- Cystic Fibrosis
- Environmental exposure - cigarette smoke, pollutants,
Sinus Drainage Pathways

Drainage From:
1. Frontal Sinus
2. Anterior Cells
3. Nasolacrimal
4. Middle Cells
5. Maxillary Sinus
6. Posterior Cells
7. Sphenoid Sinus
Anatomy of chronic sinusitis

- Ostiomeatal complex is final common drainage pathway for maxillary, anterior ethmoid, and frontal sinuses.
Anatomy of chronic sinusitis

- Saggital view of Ostiomeatal Complex
Anatomical variations
Pansinusitis
Paradoxical Middle Turbinates
Sinonasal Polyposis
Concha Bullosa
Deviated Nasal Septum
Mucus retention cysts
Frontal Mucocele
Allergic Fungal Sinusitis
Ethmoid mucocele
MRI Ethmoids
Intracranial Extension of ethmoid sinusitis
Intraorbital extension of ethmoid sinusitis
Intraorbital extension of ethmoid sinusitis
Sinus Mucosa
Management of Chronic Sinusitis

- The goal of both medical and surgical management is to restore drainage and normal mucociliary clearance.
Medical Management

- Broad spectrum antibiotics for an extended period, often up to 28 days
- Nasal Saline Rinses
- Topical steroids
- Oral steroids
- Allergy control
Medical Management

- IV antibiotics have not been shown to have a higher long-term effectiveness rate than oral antibiotics for chronic sinusitis.

- Topical/nebulized antibiotics can be helpful primarily in post-surgical patients.

- Antifungal therapy alone has not been shown helpful for chronic sinusitis.

- Macrolide antibiotics may be helpful in treatment of sinusitis with polyposis due to anti-inflammatory effect.
Surgical Management

- Surgery is generally considered as an adjunct to rather than a replacement for medical management.

- This is especially true in the case of polyposis.

- Goal of surgery is to restore drainage and ventilation to the sinuses, while preserving as much native mucosa as possible.
Chronic Sinusitis: Medical vs. Surgical Management

- Comprehensive, maximal medical management as primary treatment
- Considerations for candidacy:
  - Recurrent acute infection
  - Persistent chronic infection
  - Intolerance of or Non-compliance with medical therapy
  - Patient preference
Functional Endoscopic Sinus Surgery

- Aims to restore natural drainage. Excellent for when the surgical goal is to remove bone and tissue.
Balloon Sinus Dilation

- Excellent for isolated disease, revision sinus procedures.
- Can be done in office under local anesthesia.
- Rapid recovery
- Restenosis rates equal to or better than FESS
Traditional Instrumentation and Approaches
1. Advance balloon catheter
2. Inflate balloon
3. Deflate balloon
4. Remove entire system
Preservation of Natural Structures: Balloon Dilation

Balloon Sinus Dilation

Traditional Instrumentation
Questions?