

# **Chronic Sinus Disease with and without Polyps**

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# My Training



UNC  
SCHOOL OF MEDICINE



University  
Hospitals

# Sinusitis is a Love Story



# Two Babies

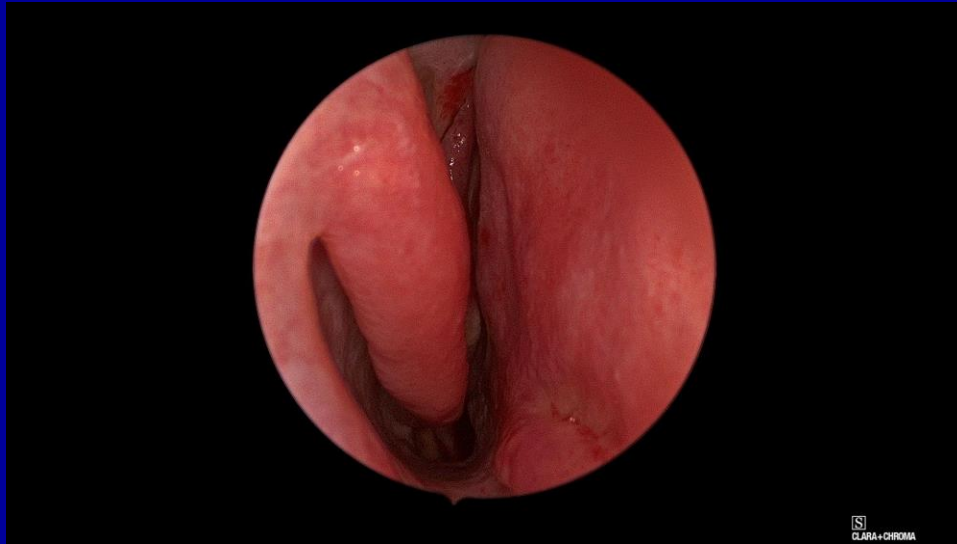




# One With...



# One Without...



# Disclaimer

- The cluster of symptoms that define “chronic sinus disease” overlap with multiple other disease processes
- The etiology of chronic sinus disease is not well understood
  - It is difficult to have strong studies given the heterogeneous nature of the disease

- **Two or more of the following symptoms**
- **Greater than 12 weeks duration**
  - **2 major**
    - **Nasal blockage/obstruction**
    - **Nasal discharge**
    - **Facial pain pressure**
    - **Decreased smell**



# Minor Signs / Symptoms

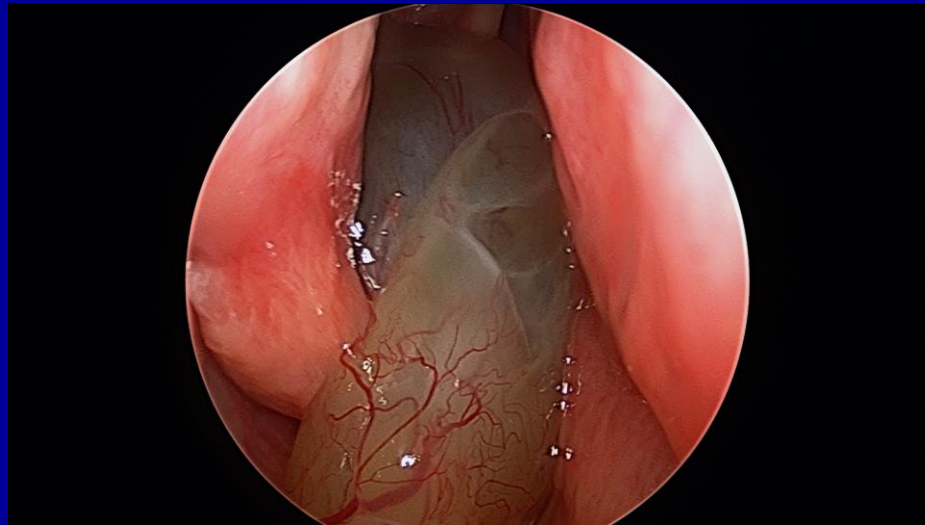
- Headache
- Fever
- Halitosis
- Fatigue
- Dental pain
- Cough
- Ear pain/pressure/fullness
  - One major two minors

# Me Epidemiology

- **Chronic sinusitis**
  - 2-16% in population
- **Nasal polyps**
  - 20-33% of CRS patients
  - Aspirin exacerbated respiratory disease represents ? 15% of the patients with chronic rhinosinusitis with nasal polyps

# Let us Start with Polyps

- Sinus surgeon view
  - Benign, stubborn, grape like projections most often within the ethmoid cavities
    - Nasal endoscopy can often diagnose

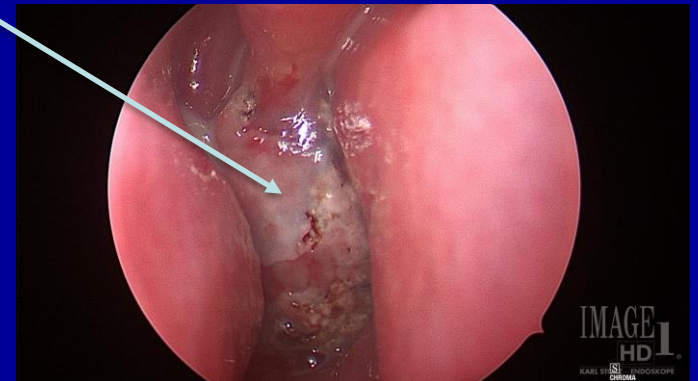
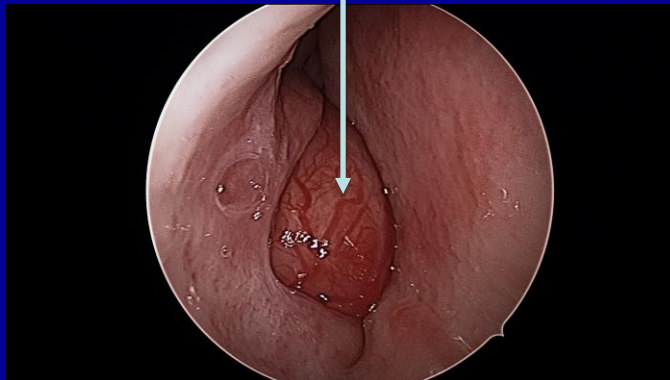
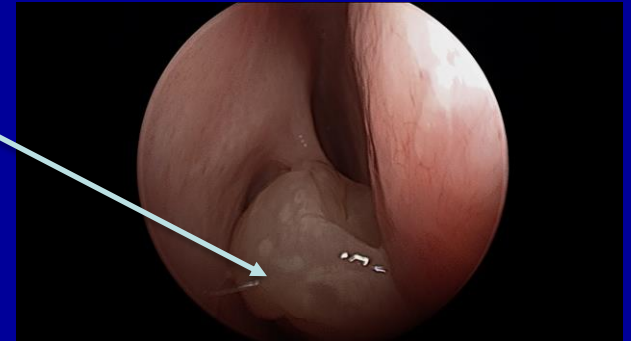


# Exam Findings

- **Objective confirmation of the diagnosis is made by sinus CT scan or nasal endoscopy – CRITICAL!!!!!!!!!!!!!!!!!!!!!!**

# Differential?

- **Schneiderian papilloma**
- **Antrochoanal polyp**
- **Angiofibroma**
- **Encephalocele**
- **Malignancy**





# BEWARE

- **Be very careful with one sided polyp**
  - **Schneiderian papilloma can contain cancer**
  - **"Polyp" medial to the middle turbinate can be brain**
  - **Cancer, cancer, cancer**

# What are they to the Patient?

- Classically long standing nasal congestion + loss of smell
- ? infection that they cannot clear



Summer, why can't you smell that? I certainly can!!!!

# Nasal Polyp Basics

- Most common age of onset is 42 years and the typical age of diagnosis ranging from 40–60 years
- Nasal polyps found in patients < 20 years or > 80 years raise suspicion
  - Cystic fibrosis / PCD
  - Malignancy

# Nasal Polyp Overlap

- Allergy makes people worse????
  - Patients with NP had more (+) skin tests
  - Patients with medically refractory sinusitis were more likely to have multiple (+) skin tests and asthma

# #1

- **Individuals with sinus issues often have concurrent allergic rhinitis or asthma or both**
- **Key to work up is understanding:**
  - **GOALS OF THE PATIENT**
  - **Delivering targeted, cost effective care**
- **Involve your partners if you need help**



# Making it Simple

- What is feeding polyp growth?
- Inflammatory dysregulation

# Transition Time



# CRS Without Polyps



# What Causes the Disease?

- **We don't know**
- **Many potential pathophysiologic mechanisms**
  - **Bacteria (chronic infection)**
  - **Osteitis**
  - **Superantigens**
  - **Biofilms**
  - **Fungus**
  - **Immune dysfunction**
  - **Mucociliary clearance problem**

# #2

- **A separate lecture could be given just on theories of the etiology of CRS**
- **Until this is further clarified the disease will remain difficult to treat**
- **Let's agree that it exists and focus on a reasonable method to diagnose and treat it**



# Transition Time



# Classification

- **Endotyping helps to explain**
  - **Differences in clinical manifestations**
  - **Variations in therapeutic response and prognosis**

# Endotyping

- **An endotype is a subtype of a condition defined by a distinct functional or pathobiological mechanism**

# Transition Time



**Let's Go To CLINIC!**



# Goals

- **Why are you here?**
- **Would you consider surgery?**
- **Cost?**
- **Ability to comply**
  - **< 30 years old different world**
- **Biases????**
  - **I don't like sprays**
  - **I don't like needles**

# Let's Look

- Nasal endoscopy

# First Up



# Real Office Transcript

- **Summer: Daddy, lots of symptoms forever!**
- **Dad: Forever? You are 3 months old.**
- **Summer: You get what I mean. Please feed me.**



# Initial Management

- What is the discussion you have with a patient once you make the diagnosis of nasal polyps?
  - Doctor what are polyps?
    - Stress benign process
  - Doctor is there a cure?
  - Medication for the rest of my life?

# Treatment

- Tailored therapy
  - What bothers you the most?
  - How realistic is it we can attain improvement in symptoms
  - Am I right the person to manage your symptoms?
    - Shortness of breath
    - Clear allergic drive

# Shut Up and Tell Them Something Helpful

- **Decision tree #1**
  - **Do they want surgery?**
  - **Do you want to do surgery on them?**
    - **If both are yes I would provide 14 days of Augmentin / Doxycycline and a 10 day prednisone taper beginning at 30mg and tapering over 10 days**
    - **Why taper – stretch the length of the course**



# Surgery – Remember this is a Love Story



# Treatment

- **Decision tree #1**
  - **Do they want surgery?**
  - **Do you want to do surgery on them?**
    - **If no to any question**
      - **Topical therapy**
        - » **Things are about to get complicated**

# Topical Steroids

- **3 main groups**
  - **Classic topicals**
    - Fluticasone, Triamcinolone, Budesonide etc
  - **I think they may get in the nose deeper**
    - Fluticasone metered
    - Beclomethasone dipropionate
  - **I think I want to go off label**
    - Budesonide / Mometasone

# As of now...

THE  
**Laryngoscope**  
FOUNDED IN 1896

Trio Society Best Practice |  [Free Access](#) |

## Is topical high-volume budesonide sinus irrigation safe?

Yi Cai MD, David A. Gudis MD 

- **Current body of data demonstrates safety**
- **\*\*\*Tell patient it is off label**

# Typical Visit #1

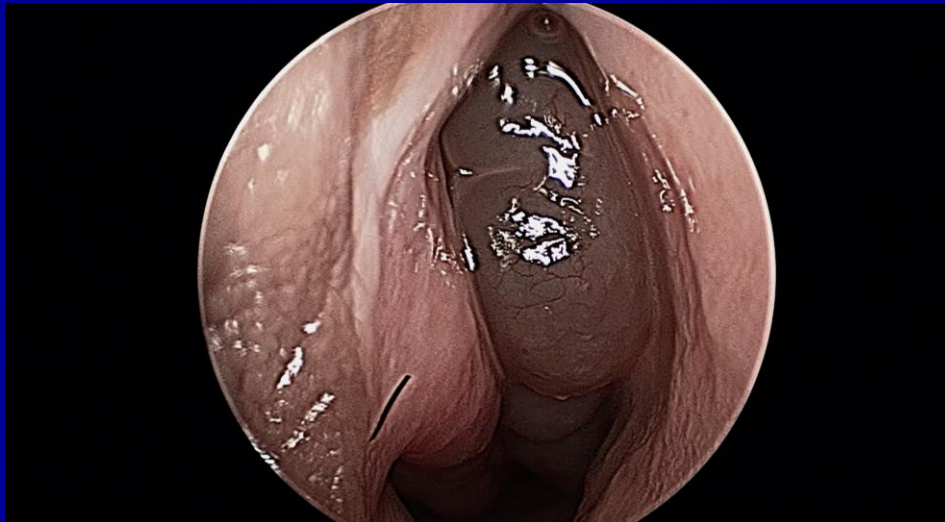
- **The “Trial”**
  - **Fluticasone 1-2 sprays each nostril BID**
  - **Consider adding Azelastine @ 1 month**
  - **Rinsing is not unreasonable but in some instances can be tough with polyps**
    - **Trapping / lack of easy access to the nasopharynx**

# Visit #2

- **Rodriguez...you are terrible**
- **No benefit / I'm worse!!!**
  - **Now what?**
    - **Almost certainly oral therapy**

# 3<sup>rd</sup> visit

- I am SOOOO much better
  - Smell is great
  - Breathing great
    - Look in nose and:





# Lesson Here?

- **Most important metric is how the patient perceives their symptom cluster**
  - **These symptoms are subjective**
    - Further altered by depression, anxiety etc.
- **Don't be pushed to fix something if it is not broken**
  - **Another story is forming**

# The Deviated Septum – a Short Story

- I saw a women once:
  - Why are you here?
    - I have a deviated septum?
  - Why are you here?
    - My septum is deviated?
  - So?
    - What do you mean so?
  - How is your breathing?
    - Fine
  - Please leave my office



**Now YOU!**



# Real Office Transcript

- **Sadie: Can I have a treat?**
- **Dad: Can you tell me about your sinus problems?**
- **Sadie: Can I please have a treat?**
- **Dad: If you tell me about your sinuses.**
- **Sadie: Lots of symptoms forever.**
- **Dad: Good dog.**

# No Polyps

- Same global treatment picture
- I am much less aggressive to give oral therapy upfront

# Now Things get Complicated

- Oral antihistamines
- Montelukast
  - Asthma patients?
- Mucinex
- Ipratropium
  - Anterior nasal drainage
- Oral / topical decongestants
  - Nothing more than a rescue

# I'm Scared

- Normal imaging but significant symptoms
- Migraine / chronic headache
- Known immune deficiency
- Cystic fibrosis / PCD
- Aspirin sensitive
- Crusting





# Transition Time

# Imaging – Soap Box Time

- **POST TREATMENT!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!**
- **Indications to scan**
  - **Work up for surgery – 1mm cuts**
  - **Complications – orbital / intra-cranial**
    - **Indications for contrast**
      - » **Infectious complication (abscess)**
      - » **Concern for malignancy**
- **I do not love scout films but...**

# CT Findings



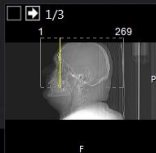
# CT Findings



FoV: 277 mm  
205. COR 1X1 STWO

C: 100.0, W: 3000.0  
Sync group: 1

10/30/2019 - 03:48:06 PM  
Image 63 of 269

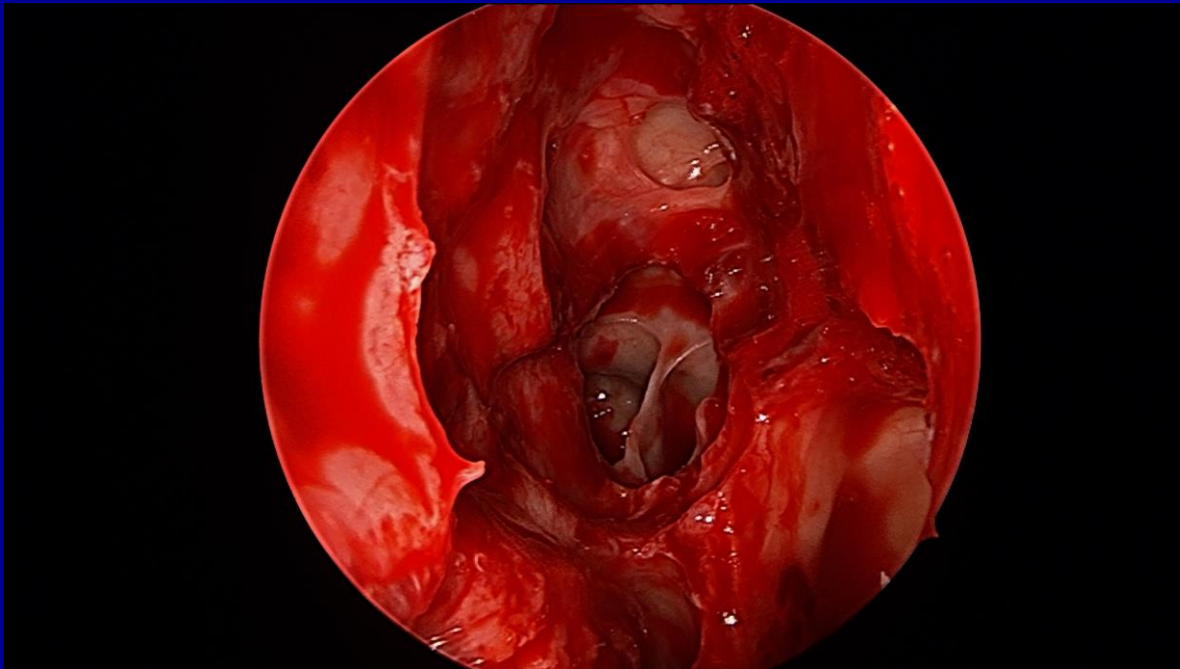


# Surgery

- **Why are you having surgery**
  - **Get drugs in\*\*\***
  - **Debulk polyps / get rid of inflammation**
- **In my biased opinion complete surgery is key**
  - **Not all sinuses in everyone just completing each sinus that is diseased**
    - **No balloons in polyp surgery**

# Surgery

– I have a particular set of skills...



# How they do...

- **Difficult to predict who “wins”**
  - **Good prognosis**
    - Lining appears normal when you are done
    - Obvious cause (dental infection)
    - Don't have polyps
    - Not aspirin sensitive (or all the other things that scared me)

# **What do you do with Topical Steroids Now?**

- **I like Budesonide or Mometasone in rinses BID**
  - **Can get creative and concentrate**
- **Traditional topicals make sense**
- **Metered fluticasone**
  - **Remember it is a chronic disease**



# Biologics

- These drugs target factors associated with the type-2 inflammation observed in the polyp tissue
- Very exciting...in theory

# Lots of Choices

# Role???

- **Surgically and traditionally medically refractory polyposis**
  - **Medical indications**
    - **Atopic dermatitis**
    - **Asthma**
- **Not front line from ENT side**

# I will make you a deal; I operate you desensitize

Am J Rhinol Allergy. 2018 Jul;32(4):280-286. doi: 10.1177/1945892418770260. Epub 2018 Apr 23.

## **Long-term Clinical Outcomes of Aspirin Desensitization With Continuous Daily Aspirin Therapy in Aspirin-exacerbated Respiratory Disease.**

Walters KM<sup>1</sup>, Waldram JD<sup>1</sup>, Woessner KM<sup>1</sup>, White AA<sup>1</sup>.

- **Aspirin desensitization:**
  - Significantly improve overall respiratory symptoms and quality of life
  - Reduce polyp formation infections
  - Lessen the need of oral steroids and ESS

# When to do it???

- Post surgery
- Aspirin desensitization helps in preventing or limiting regrowth of NPs
- You CAN operate on people on ASA (just not a lot of it)

# Truths – as I see them

- Polyps don't kill you – remember that
- Oral steroids work great...but can kill you – remember that

# Truths – as I see them

- These patients need a thoughtful medical work up
  - ENT
  - Allergist / immunologist
  - Pulmonologist
  - Rheumatology
  - Neurology
- Many people need medical salvage after surgery

# Truths – as I see them

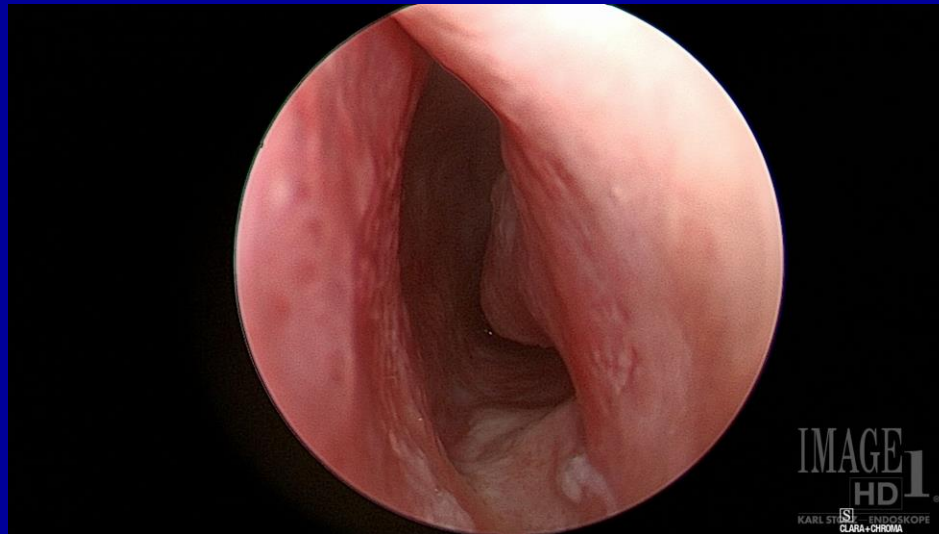
- **Be thoughtful with imaging**
  - Don't fixate on CT findings
- **Carefully explain long term management**
  - Look for compliance early
- **Give realistic goals**
- **Don't forget you don't know everything**



# Hunting for Symptom Improvement

# Exam Pearls – for the non-ENT

- Consider purchasing an inexpensive zero degree nasal endoscope
  - The view is dramatically better than using a speculum or otoscope



# More

- **Consider learning nasal endoscopy as an adjunct to your practice**
- **Consider watching a sinus surgery**

# Thank you!!!

- Sadie and Summer did great!!!
- Questions?

