Is It Really Acute Bacterial Rhinosinusitis?
Assessment, Differential Diagnosis and Management of Common Sinonasal Symptoms
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Disclosures
• The content of this presentation does not relate to any product of a commercial interest. Therefore, there are no relevant financial relationships to disclose.

Objectives
• Understand Sinonasal Anatomy
• Be able to formulate appropriate differential diagnosis
• Treatment plan
  • Pharmacologic, both prescription and OTC
  • Non-Pharmacologic
  • Surgical
Nasal Anatomy

Anterior Speculum Exam

Endoscopic View

Sinus Anatomy

Normal Endoscopy Exam

Endoscopy of Normal Nasal Cavity
Normal Endoscopy Exam
Patient with a history of endoscopic sinus surgery

- Insert Video of normal sinus anatomy s/p ess

Conventional Criteria for the Diagnosis of Sinusitis Based on the Presence of at Least 2 Major or 1 Major and ≥2 Minor Symptoms

<table>
<thead>
<tr>
<th>Major Symptoms</th>
<th>Minor Symptoms</th>
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<tbody>
<tr>
<td>Purulent anterior nasal discharge</td>
<td>Headache</td>
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<tr>
<td>Purulent or discolored posterior nasal discharge</td>
<td>Nasal obstruction or rhinitis</td>
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<tr>
<td>Nasal congestion or obstruction</td>
<td>Vomiting</td>
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<tr>
<td>Facial pain or pressure</td>
<td>Postnasal drainage</td>
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<tr>
<td>Otorrhea or otitis</td>
<td>Cough</td>
</tr>
<tr>
<td>Diplopia or enophthalmos</td>
<td>Fever for subacute or chronic sinusitis</td>
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<tr>
<td>Fever (for acute sinusitis only)</td>
<td>Fatigue</td>
</tr>
</tbody>
</table>

Cardinal Criteria for Diagnosis of Acute Rhinosinusitis

- Nasal Purulence
- Nasal Obstruction or
- Facial Pressure or
- Nasal Obstruction and Facial Pressure

STATEMENT 1A. DIFFERENTIAL DIAGNOSIS OF ACUTE RHINOSINUSITIS: Clinicians should distinguish presumed acute bacterial rhinosinusitis (ABRS) from acute rhinosinusitis caused by viral upper respiratory infections and noninfectious conditions. A clinician should diagnose ABRS when (a) symptoms or signs of acute rhinosinusitis (purulent nasal drainage accompanied by nasal obstruction, facial pain-pressure-fullness, or both) persist without evidence of improvement for at least 10 days beyond the onset of upper respiratory symptoms, or (b) symptoms worsen within 10 days after an initial improvement (double worsening). Strong recommendation based on diagnostic studies with minor limitations and a preponderance of benefit over harm.
HPI

- Symptoms, Time and Severity
- Allergies
- Work Environment
- Family History of CF
- Asthma
- NSAID Allergy (Aspirin Exacerbated Respiratory Disease is the triad of Asthma, NSAID allergy and Nasal Polyps)
- History of GERD

Exam Findings with Acute Rhinosinusitis

Normal Mucosa without Infection

Edematous Mucosa with Infection

Diagnostic Tools

- Obtaining a detailed HPI is key to diagnosing in the non-otolaryngology office setting.
- Physical Exam with culture of the middle meatus.
- CT without contrast of the sinuses.
Endoscopy of Rhinosinusitis

In a patient with history of endoscopic sinus surgery

Normal CT Scan of Sinuses
STATEMENT 4. INITIAL MANAGEMENT OF ACUTE BACTERIAL RHINOSINUSITIS (ABRS): Clinicians should either offer watchful waiting (without antibiotics) or prescribe initial antibiotic therapy for adults with uncomplicated ABRS. Watchful waiting should be offered only when there is assurance of follow-up, such that antibiotic therapy is started if the patient’s condition fails to improve by 7 days after ABRS diagnosis or if it worsens at any time.

Pharmacological Treatments

**Antibiotics**
- First line treatment: Augmentin 875mg BID for 10 days.
- PCN Allergic Patients: Doxycycline 100mg BID for 10 days is another good option with low side effect profile.

STATEMENT 5. CHOICE OF ANTIBIOTIC FOR ACUTE BACTERIAL RHINOSINUSITIS (ABRS): If a decision is made to treat ABRS with an antibiotic agent, the clinician should prescribe amoxicillin with or without clavulanate as first-line therapy for 5 to 10 days for most adults. Recommendation based on randomized controlled trials with heterogeneity and non-inferiority design with a reponderance of benefit over harm.

Differential Diagnosis

- Migraine
- Other Headache Variant
- Nasal Polyposis
- Deviated Nasal Septum
- Sinonasal Malignancy
- Chronic Rhinitis
- Allergic Rhinitis
- Vasomotor Rhinitis
- Rhinitis Medicamentosa
- Drug Induced
- Extraesophageal Reflux
Headache Variant

- Migraine and cluster headaches often have sinonasal symptoms including:
  - Congestion, rhinorrhea, epiphora
  - Pulsing headache.
- Other characteristics that are suspicious for headache variant versus sinusitis are:
  - Nausea and vomiting.
  - Stable pattern of recurrent headaches.
  - Barometric pressure changes induce symptoms.
  - Sensitivity to activity, light and sound.
- Remember criteria for sinusitis when a patient complains of “sinus headache”. Are they having nasal congestion or obstruction, nasal purulence?

Allergic Rhinitis

- Spring Pollen – April-May
- Grass Pollen – May-June
- Weeds – August-September
- Nasal Polyposis
Deviated Nasal Septum

- One study reported septal spur or DNS incidence to be as high as 79% in humans.
- Can cause nasal dryness, nasal congestion and epistaxis.
- Treatment is reducing other edema of the nasal structures versus septoplasty.

Summary of Evidenced Based Statements

Take Away

- Listen carefully to HPI as it can often lead you to diagnosis.
- Know your anatomy.
- Know your criteria for diagnosis.
- When a patient fails to meet criteria for diagnosis, remember things that commonly mimic symptoms. Differential includes, but is not limited to: migraines, headache, allergy, viral illness.
- Remember that the majority of acute rhinosinusitis cases are viral and a period of watchful waiting with symptom relief measures is appropriate in the majority of patients.
- When treatment is indicated, first line treatment is Augmentin or Doxycycline in PCN allergic patients.
Questions

References


