Adult Acute Bacterial Rhinosinusitis (ABRS) Guideline

EVALUATION AND TREATMENT

Adult Patient Presents with Signs/Symptoms of Acute Rhinosinusitis

Concerning Complications

Patients with symptoms concerning for local complications:

- Periorbital swelling
- Severe facial or dental pain
- Infraorbital hyesthesia
- Altered mental status
- Diplopia

High Risk Patient Exclusion

Do not use this guideline if complications from ABRS are suspected.

Consider consult with ENT or Ophthalmology and/or Imaging.

Assess Adult Patient for Acute Rhinosinusitis

Symptoms of purulent nasal drainage accompanied by nasal obstruction, facial pain-pressure-fullness, or both

Assess Signs and Symptoms of Acute Bacterial Rhinosinusitis (ABRS)

Evaluate patient for any of the following symptoms or signs:

- Persistent and not improving symptoms or signs of acute rhinosinusitis present for **≥ 7 days** beyond the onset of the initial URI symptoms
- Severe symptoms or high fever (≥39°C) for at least 3-4 consecutive days at the beginning of the illness
- Worsening symptoms or signs characterized by new fever, headache, or increase in nasal discharge following a typical viral URI that lasted 5-6 days and were initially improving (double-worsening or double-sickening phenomenon)

Symptoms for ABRS Not Present

Viral rhinosinusitis most likely.

Provide supportive care **(TABLE A)** and appropriate clinical follow-up.

Symptoms for ABRS Present

Assess risk factors for antibiotic resistance:

- Use of antibiotics within the preceding 4 weeks
- Hospitalization within the past 5 days
- Severe co-morbidities
- Immunocompromised state
- History of resistant organisms

No Risks for Antibiotic Resistance Present

Provide supportive care **(TABLE A)** plus an antibiotic*:

- Amoxicillin 1g PO three times daily
- Amoxicillin-clavulanate (Augmentin) 875/125 mg PO two times a day

Alternative treatment for patient with penicillin (PNC) allergy:

- Doxycycline (Vibramycin) 100 mg PO two times a day or 200 mg po daily
- Levofloxacin (Levaquin) 500 mg PO daily
- Moxifloxacin (Avelox) 400 mg PO daily

*Risks for Antibiotic Resistance Present (See Clinical Pearls *)

Provide supportive care **(TABLE A)** plus an antibiotic*:

- Amoxicillin-clavulanate (Augmentin) 2,000/125 mg PO two times a day (Augmentin XR 1,000/62.5 mg PO two times a day)

Alternative treatment for patient with penicillin (PNC) allergy:

- Doxycycline (Vibramycin) 100 mg PO two times a day or 200 mg po daily
- Levofloxacin (Levaquin) 500 mg PO daily
- Moxifloxacin (Avelox) 400 mg PO daily

Improvement After 3-5 Days

Complete 5-7 days of antimicrobial therapy

No Improvement After 3-5 Days

Broaden antibiotic therapy or switch to a different antibiotic class

Improvement After 3-5 Days

Complete 5-7 days of antimicrobial therapy

*No antibiotic is clearly superior for treatment of ABRS, but amoxicillin-clavulanate is recommended as first-line therapy.

Improvement

Complete 5-10 days of antimicrobial therapy

No Improvement

- Referral to specialist
- CT or MRI to investigate suppurative or non-infectious causes
- Sinus or meatal cultures for pathogen-specific therapy

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This guideline is not intended to replace a provider's judgment, but rather to support the decision-making process, which must be individualized for each patient's circumstances.

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REFERENCE INFORMATION

Clinical Pearls

•Bacterial etiologies are estimated to occur in about 2-10% of adults with acute rhinosinusitis
* Risk factors for H flu resistance – i.e. "Smokers, patients who have recently received antibiotics, health care providers, and areas where there is a high rate of community resistance, if the patient's infection is severe or protracted, if the patient is older than 65 years, or if he or she has a coexisting condition (diabetes, an immunocompromised state, or chronic cardiac, hepatic, or renal disease" [5]

- Only 0.5% to 2% of viral rhinosinusitis (VRS) episodes are complicated by bacterial infection
- In the first 3-4 days, VRS cannot be differentiated from ABRS; fever does not predict bacterial infection
- Approximately 70% of patients that undergo watchful waiting will spontaneously improve after 7-14 days
- The modest benefit of antibiotic for most patients use must be balanced with risk of harm from antibiotics

•No antibiotic is clearly superior for treatment of ABRS, but amoxicillin-clavulanate is now recommended as first-line antibiotic therapy due to the increasing prevalence of resistant *S. pneumoniae* and *H. influenzae*

•Radiographic imaging does not assist in distinguishing between viral and bacterial acute rhinosinusitis, unless a complication or alternate diagnosis is suspected

•If patients fail to improve after 7 days of treatment, clinicians should confirm accuracy of ABRS diagnosis and evaluate for complications

TABLE A: Symptomatic Treatment Options for Adult Acute Bacterial Rhinosinusitis (ABRS)

Options for symptomatic treatment of acute rhinosinusitis include:

- Analgesics/Anti-pyretics
  - o Acetaminophen or ibuprofen
- Nasal irrigation
  - o Buffered hypertonic saline (3-5%) rinses
- Decongestants (limited data)
  - oSystemic: pseudoephedrine, phenylephrine
  - oTopical: oxymetazoline; need to counsel patients regarding importance of using for ≤ 3 days due to potential for rebound nasal congestion with prolonged use
- Steroids
  - o Topical nasal steroids: May reduce symptoms, especially in patients with history of allergic rhinitis
  - o **Prednisone: Not recommended. Side effects likely to exceed clinical benefit (limited data)**
- Anti-histamines
  - o Not beneficial; avoid use unless concerned for allergic component

References

1. Scheid DC and RM Hamm. Acute bacterial rhinosinusitis in adults: Part II. Treatment. *Am Fam Phys* 2004; 70(9): 1697-1704.
2. Rosenfeld RM, et al. Clinical Practice Guidelines: Adult sinusitis. *Otolaryngol Head Neck Surg* 2007; 137:S1-S31.
3. Ahovuo-Saloranta A, et al. Antibiotics for acute maxillary sinusitis. *Cochrane Database Syst Rev* 2008; Apr 16(2):CD000243.
4. Chow A, Benninger M, Brook I, et al. IDSA clinical practice guidelines for acute bacterial rhinosinusitis in children and adults. *Clin Infect Dis* 2012; 54(8):e72-e112.
5. Rosenfeld, Richard M. "Acute Sinusitis in Adults." *New England Journal of Medicine* 375.10 (2016): 962-970.
6. Choosing Wisely: http://www.choosingwisely.org/clinician-lists/american-academy-family-physicians-antibiotics-for-sinusitis/

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