Acute Sinusitis

Diagnosis

- The diagnosis of acute sinusitis is based on the clinical presentation: nasal discharge or congestion, facial pain or pressure, reduced or absent sense of taste or smell, headache, ear pain or pressure, dental pain, bad breath, fatigue, or low-grade fevers.[1]
- Most cases of acute sinusitis (approximately 98%) are caused by a virus and do not require antibiotics.[1-3]
- The presence of low-grade fever, facial or dental pain, or colored nasal discharge are not accurate predictors of a bacterial etiology.[4]

Antibiotic Therapy

- Antibiotics should be considered for sinusitis if any of the following criteria are met:
  - Persistent symptoms: at least 10 days of symptoms without improvement
  - Worsening symptoms: typical viral upper respiratory tract infection symptoms that appear to improve followed by the onset of worsening sinus symptoms after 5–6 days
  - Severe symptoms: at least 3-4 days of temperatures ≥ 102°F and purulent nasal discharge or facial pain
- First-line therapy for adults and children: amoxicillin/clavulanate[1,5]
  - Options for nonsevere penicillin allergy for adults and children: doxycycline or an oral third-generation cephalosporin ± clindamycin
    - Consider adding clindamycin to an oral third-generation cephalosporin if there is high risk of *Streptococcus pneumoniae* resistance, such as extensive prior antibiotic exposure, multiple comorbidities, or high community rates of *S. pneumoniae* resistance
    - Newer data indicate that permanent teeth staining with doxycycline is unlikely in children (even < 8 years of age) when using durations of therapy of ≤ 10 days.[6]
  - Options for severe penicillin allergy and unable to tolerate doxycycline:[1]
    - Levofloxacin or moxifloxacin
- Because *S. pneumoniae* is frequently resistant to trimethoprim/sulfamethoxazole, azithromycin, and clarithromycin, these agents are not recommended for bacterial sinusitis.

Symptomatic Therapy

- Analgesic/antipyretic for facial pain and fever
- Decongestants (limited to ≥ 12 years of age) [2,7]
  - Oxymetazoline nasal spray or pseudoephedrine orally (may be less effective than topical)
    - Topical decongestants should not be used more than 3 to 5 consecutive days due to risk of rebound congestion
- Intranasal corticosteroids can decrease time to symptom relief[2,8,9]
- Nasal saline irrigation[10]

Duration

- 5–7 days for adults.[1]
- 10 days traditionally used in children, although 5–7 days may also be reasonable.

Followup

- Patients should expect to have sinusitis symptoms improve over a week to 10 days.
- Patients should return to medical care if they have no improvement after 10 days, develop fever of at least 102°F with purulent nasal discharge, or if symptoms start to improve then worsen.
- Patients should present to the emergency department if they develop severe headaches, emesis, weakness on one side of the body, visual changes, or confusion.

Reference

1. Chow AW, Benninger MS, Brook I, et al. IDSA clinical practice guideline for acute bacterial rhinosinusitis in children and adults. Clin Infect Dis. 2012 Apr;54(8):e72-112. PMID: 22438350.

2. Rosenfield RM, Piccirillo JF, Chadrasekhar SS, et al. Clinical practice guideline (update): adult sinusitis. Otolaryngol Head Neck Surg. 2015 Apr;152(2 Suppl):S1-S39. PMID: 25832968.

3. Gwaltney JM Jr. Acute community-acquired sinusitis. Clin Infect Dis. 1996 Dec;23(6):1209-23; quiz 1224-5. PMID: 8953061.

4. Hauer AJ, Luiten EL, van Erp NF. No evidence for distinguishing bacterial from viral acute rhinosinusitis using fever and facial/dental pain: a systematic review of the evidence base. Otolaryngol Head Neck Surg. 2014;150:28-33. PMID: 24357394.

5. Patel ZM, Hwang PH. Uncomplicated acute sinusitis and rhinosinusitis in adults: treatment. UpToDate. April 2022. https://www.uptodate.com/contents/uncomplicated-acute-sinusitis-and-rhinosinusitis-in-adults-treatment. Accessed May 10, 2022.

6. Todd SR, Dahlgren FS, Traeger MS, et al. No visible dental staining in children treated with doxycycline for suspected Rocky Mountain Spotted Fever. J Pediatr. 2015 May;166(5):1246-51. PMID: 25794784.

7. Rotter N. Evidence and evidence gaps in therapies of nasal obstruction and rhinosinusitis. GMS Curr Top Otorhinolaryngol Head Neck Surg. 2016 Dec 15;15:Doc06. PMID: 28025606.

8. Zalmanovici A, Yaphne J. Intranasal steroids for acute sinusitis. Cochrane Database Syst Rev. 2009 Oct 7;(4):CD005149. PMID: 19821340.

9. Hayward G, Heneghan C, Perera R, et al. Intranasal corticosteroids in management of acute sinusitis: a systematic review and meta-analysis. May-Jun 2012;10(3):241-9. PMID: 22585889.

10. Kassel JC, King D, Spurling GK. Saline nasal irrigation for acute upper respiratory tract infections. Cochrane Database Syst Rev. 2010 Mar 17;(3):CD006821. PMID: 20238351.

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