Acute sinusitis

Graham Worrall MBBS MSc MRCGP FCFP

Approximately 0.5% of all upper respiratory tract infections are complicated by sinusitis, which is most common in adults (children do not have fully developed sinuses).

- Sinusitis is one of the 10 most common diagnoses in primary care.
- One in 10 people visit their doctor with sinusitis each year.

Causes

Most acute sinusitis is caused by the same viruses that cause the common cold. A secondary bacterial infection develops in only a small number of cases. The bacterial pathogens of primary care cases are not really known (culture studies have taken place in specialists' practices).

- Most acute sinusitis is caused by viral infections.
- A small but unknown proportion of cases develop a secondary bacterial infection.
- When sinus aspirates are cultured, most of them are sterile.
- Figures from otolaryngology clinics, which claim that 20% to 50% of acute sinusitis is bacterial, are subject to referral bias. The primary care figure is much lower.

Clinical course and management

Details of the natural history of the illness have been obtained from the placebo-control groups of antibiotic trials. Sinusitis sufferers usually recover spontaneously without antibiotic treatment, even if the infection is bacterial. Most adult patients become well or nearly well after 7 to 10 days, but 25% are still symptomatic after 14 days. The signs and symptoms of acute bacterial sinusitis and of a prolonged head cold are very similar, which makes diagnosis difficult. Complications are very rare.

- Most cases of acute sinusitis will get better without treatment.
- Most patients will be better within 7 to 10 days.
- When symptoms persist beyond 7 days, bacterial sinusitis is more likely.
- Complications are very rare.

There are no robust decision rules for diagnosing bacterial sinusitis as there are for sore throat; sinusitis is a clinical diagnosis. Cultures from the nose or the pharynx are of no value; transillumination and sinus x-ray examinations have limited sensitivity. Ultrasonography is not considered useful for acute sinusitis. Computed tomographic scans of the sinuses are more sensitive than plain film radiographs or ultrasounds, but up to 87% of adults with early cold symptoms show some sinus abnormalities on computed tomographic scans. At present, there seems to be no place for routine diagnostic tests for sinusitis in primary care.

- Diagnosis is difficult. General practitioners probably overdiagnose acute sinusitis.
- There are several clinical pointers that determine sinusitis (if 1 or 2 of these elements are present, sinusitis is unlikely; however, if 4 or more are present, sinusitis is likely):
  - previous common cold,
  - poor response to decongestants,
  - unilateral face or tooth pain,
  - pain on chewing,
  - two-phase illness lasting for more than 10 days,
  - purulent unilateral nasal discharge, and
  - tenderness over sinuses.
- Most imaging is not useful in determining sinusitis:
  - Nasopharyngeal cultures are not recommended.
  - Transillumination is of doubtful value.
  - Plain sinus films are of little value.
  - Ultrasonography is of moderate value.
  - Computed tomographic scans are probably the most reliable test.

Treatment

Acute sinusitis is a self-limiting disease, so comfort measures are usually sufficient. No controlled trials have been done to assess the efficacy of decongestants, but numerous authorities recommend them. They are known to increase ostial diameter and thus promote sinus drainage. Antihistamines are not recommended, as they cause further inspissation of secretions.

- Most cases recover spontaneously.
- Comfort measures are traditional; however, there is no convincing evidence that any of these measures

are effective:
– inhale steam,
– maintain hydration,
– apply warm facial packs,
– administer saline nasal drops,
– use decongestants,
– elevate head when sleeping, and
– avoid cigarette smoke.
- Antihistamines are not recommended.

Antibiotics

General practitioners prescribe antibiotics for 77% to 100% of cases of acute sinusitis. Most antibiotic trials have shown no effect. Systematic reviews have concluded that the beneficial effects, if any, are probably not clinically significant (number needed to treat = 16), and patients on antibiotics are more likely to develop diarrhea or rashes from the antibiotics.

It does not appear to matter which antibiotic is used. All of them are equally effective, and reviews recommend the use of the cheaper broad-spectrum antibiotics. Although doctors habitually prescribe a 10- or 14-day course of antibiotics, several studies have suggested that shorter courses can be equally effective.

At present, there is no way of identifying the small subgroup of sinusitis patients who are likely to benefit from antibiotic treatment.

- When tests confirm acute maxillary sinusitis, there is a moderate effect of treatment with penicillin or amoxicillin (number needed to treat = 16). The effect of antibiotics is on purulent sputum rather than on illness symptoms.
- If acute maxillary sinusitis is diagnosed on clinical grounds, there is no evidence that antibiotics are of benefit.
- There is no antibiotic that is best; use the cheapest.
- Ten- to 14-day courses are empirically recommended, but shorter courses are probably just as effective.

The evidence indicates that a strategy of initial symptomatic treatment—the wait-and-see strategy—is most cost-effective.

Several studies have shown that if patients are told that they have sinusitis rather than a head cold, and are prescribed antibiotics, they are no more likely to recover quickly, but are more likely to return to their FPs the next time they get a cold.

- Wait and see for 7 to 10 days after initial presentation.
- If symptoms persist, use clinical criteria to diagnose acute bacterial sinusitis.
- If a diagnosis is made, prescribe amoxicillin or a folate inhibitor.
- Prescribe antibiotics for 7 to 10 days.
- Using a wait-and-see strategy will result in a 90% cure rate after 1 week of treatment.
- Tell patients that they have head colds rather than sinusitis.

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Dr Worrall *is a Professor of Family Medicine at Memorial University of Newfoundland in St John's.*

Competing interests
None declared

Correspondence to: **Dr Graham Worrall**, *Dr William H. Newhook Memorial Health Centre, Whitbourne, NL A0B 3K0; telephone 709 759-2300; fax 709 759-2387; e-mail* **gworrall@mun.ca**

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