

FROM THE FAMILY PRACTICE INQUIRIES NETWORK

Do antibiotics improve outcomes in chronic rhinosinusitis?

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■ EVIDENCE-BASED ANSWER

For children, antibiotics do not appear to improve short-term (3-6 weeks) or long-term (3 months) outcomes of chronic rhinosinusitis (strength of recommendation [SOR]: **A**, randomized controlled trials). No adequate placebo-controlled trials have been performed in adults. Two consensus statements report that 10 to 21 days of antibiotics active against organisms producing beta-lactamase might be beneficial in some cases (SOR: **C**).

■ EVIDENCE SUMMARY

The American Academy of Otolaryngology-Head and Neck Surgery defines chronic rhinosinusitis as the persistence of 2 major or 1 major and 2 minor criteria lasting at least 12 weeks (**Table**).¹ The other categories of rhinosinusitis are acute (symptoms lasting <3 weeks) and subacute (symptoms lasting 3-12 weeks).

Two placebo-controlled trials have evaluated antibiotic treatment of chronic rhinosinusitis in children. In 1 study, 141 children with chronic rhinosinusitis were randomly assigned to 1 of 4 treatment arms: saline nose drops; xylometazoline (Otrivin) drops with oral amoxicillin 3 times daily; surgical drainage; or surgical drainage, amoxicillin 3 times daily and xylometazoline drops.² Outcomes were resolution of purulent rhinitis, no purulent drainage on exam, and no abnormalities of maxillary sinus on x-ray. The absence of all 3 findings constituted cure. At 6 weeks there was a non-statistically significant higher resolution in the fourth group, but by 26 weeks the groups were indistinguishable. At 6 weeks, 53%, 50%, 55%, and 79% of each group, respectively, were cured. These results increased to 69%, 74%, 69%, and 64% at 26 weeks.

Another study randomized 79 children with chronic sinusitis to treatment with cefaclor vs placebo following antral washout.³ Measured outcomes were similar to those in the prior study. At 6 weeks, 12.3% more patients in the antibiotic group achieved cure than the placebo group (64.8% vs 52.5%), but this difference was not statistically significant ($P=.28$). At 12 weeks, no differences in improvement were seen between the 2 groups (89% vs 89.5%)

No studies (since 1966) have evaluated antibiotic use compared with placebo in adults. We did not review the numerous studies comparing different antibiotics without placebo.

■ RECOMMENDATIONS FROM OTHERS

The American Academy of Otolaryngology-Head and Neck Surgery, in conjunction with the American Academy of Rhinology and the American

Academy of Otolaryngic Allergy, state that the use of antibiotics active against beta-lactamase producing organisms might be beneficial in some cases.³ A consensus statement from a panel convened in Belgium in 1996 stated antibiotics should be given for 5 to 7 days with repeat treatments if the child does not respond initially.⁵

Diagnostic criteria for rhinosinusitis

Major criteria
Facial pain/pressure*
Facial congestion/fullness
Nasal obstruction/blockage
Nasal discharge/purulence/discolored drainage
Hyposmia/anosmia
Purulence in nasal cavity on examination
Fever (acute only)*
Minor criteria
Headache
Fever (all nonacute)
Halitosis
Fatigue
Dental pain
Cough
Ear pain/pressure/fullness
*Symptom alone does not constitute a major sign in the absence of another major nasal symptom. Adapted from Lanza DC, 1997. ¹

CLINICAL COMMENTARY

Antibiotics provide only short-term relief, not long-term answers

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For chronic sinusitis, I start by emphasizing nonantibiotic treatments, such as decongestants, nasal steroids, antihistamines, smoking cessation, and avoidance of passive smoke, allergens, and other irritants. With education and experience, patients realize that antibiotics provide only short-term relief, not long-term answers. Having learned this, patients can better participate in antibiotic treatment decisions. Most are able to weigh the short-term, symptomatic benefits against potential medication side effects and the cost. I believe that 2 or 3 courses of antibiotics per year are not excessive, but I try not to exceed that limit.

Finally, I don't always choose a beta-lactamase-resistant antibiotic. Given that antibiotics do not alter the long-term prognosis, I worry less about resistance and more about minimizing cost and side-effect potential. Therefore, I occasionally treat with amoxicillin or Pen Vee K. Patients seem to appreciate my flexibility and collaborative approach to decision-making.

REFERENCES

1. Lanza DC, Kennedy DW. Adult rhinosinusitis defined. *Otolaryngol Head Neck Surg* 1997; 117(3 Pt 2): S1-S7.
2. Otten FW, Grote JJ. Treatment of chronic maxillary sinusitis in children. *Int J Pediatr Otorhinolaryngol* 1988;15:269-278.
3. Otten HW, Antvelink JB, Ruyter de Wildt H, Rietema SJ, Siemelink RJ, Hordijk GJ. Is antibiotic treatment of chronic sinusitis effective in children? *Clin Otolaryngo* 1994;19:215-217.
4. Benninger MS, Anon J, Mabry RL. The medical management of rhinosinusitis. *Otolaryngol Head Neck Surg* 1997; 117(3 Pt 2): S41-S49.
5. Clement PA, Bluestone CD, Gordts F, et al. Management of rhinosinusitis in children: consensus meeting, Brussels, Belgium, September 13, 1996. *Arch Otolaryngol Head Neck Surg* 1998; 124:31-34.