AAO-HNSF Releases Clinical Practice Guideline on Acute Otitis Externa

Key Points for Practice

- Sufficient dosing of oral analgesics is essential for alleviating discomfort and allowing patients to rest and continue their normal activities.
- Topical therapy for uncomplicated AOE is the first-line treatment, with no significant differences between different drug classes.
- If a patient has AOE with a perforated tympanic membrane, or if perforation is due to tympanostomy tube placement, then a non-ototoxic topical preparation is advised.
- If AOE is complicated by progression beyond the ear canal, systemic antimicrobial agents may be warranted.

From the AFP *Editors*

A diagnosis of acute otitis externa (AOE) requires sudden onset (e.g., within 48 hours) within the past three weeks of symptoms (e.g., otalgia, itching, fullness, hearing loss, jaw pain) and signs (e.g., tenderness of the tragus or pinna) indicating inflammation of the ear canal. Causes of AOE include regular or aggressive removal of cerumen (e.g., through cleaning of the ear), which usually acts as a protectant against moisture and infection; debris from dermatologic conditions; local trauma; irrigation; and wearing hearing aids. AOE is more common in persons living in areas that are warmer with increased humidity, and in persons who live in areas where they spend more time in the water (e.g., swimming).

Most AOE cases in North America are bacterial. Although topical antimicrobials can be a useful treatment option, oral antibiotics have been shown to have limited usefulness. Because there is a variance in management options and because accurate diagnosis of AOE is important, the American Academy of Otolaryngology–Head and Neck Surgery Foundation (AAO–HNSF) chose to update its previously released guideline on AOE. This more recent guideline provides information based on new data. It focuses on patients two years or older with diffuse AOE.

Recommendations

DIAGNOSIS

Physicians should differentiate diffuse AOE from other causes of otalgia, otorrhea, and inflammation of the external ear canal (based on observational studies with a preponderance of benefit over risk), which should help physicians in determining the appropriate treatment method. AOE can imitate the appearance of acute otitis media and other inflammatory dermatoses such as eczema, seborrhea, and psoriasis.

Physicians should evaluate patients with diffuse AOE for factors that can change the way the condition is managed. These factors include a nonintact tympanic membrane, presence of tympanostomy tubes, diabetes mellitus, immunocompromise, and previous radiotherapy (based on observational studies with a preponderance of benefit over risk).

MANAGEMENT

Physicians should evaluate patients with AOE for pain, and the analgesic treatment selected should be based on the severity of the patient's pain (based on well-designed randomized trials with a preponderance of benefit over harm). Continued use of an appropriate analgesic at a sufficient dose is essential in alleviating discomfort and allowing patients to rest and to continue their normal activities. Physicians need to know the appropriate dose, timing, route of delivery, and possible adverse effects to adequately control a patient's pain with analgesics. The oral route is preferred because of its convenience, ease of use, and low cost. Continued assessment of the patient's pain and how it is being managed is crucial.

Physicians should not prescribe systemic antimicrobials initially in patients with diffuse uncomplicated AOE, unless the condition has moved beyond the ear canal or if specific indications for systemic therapy are present (based on randomized controlled trials with minor limitations and a preponderance of benefit over harm). Topical therapy is the recommended initial treatment for AOE because of its safety, effectiveness, and exceptional outcomes in comparative studies. With topical therapy, a highly concentrated antimicrobial can be delivered to the infected area; this can be 100 to 1,000 times stronger ▶

than systemic therapy. Topical therapy should be supplemented with systemic antibiotics if the patient has a condition that is associated with increased morbidity; if the infection has spread beyond the ear canal into the pinna, skin of the neck or face, or into deeper tissues; or if topical therapy cannot be delivered effectively.

Physicians should prescribe topical therapy initially for diffuse uncomplicated AOE (based on randomized trials with some heterogeneity and a preponderance of benefit over harm). If a patient's tympanic membrane is perforated, including from a tympanostomy tube, the physician should prescribe a non-ototoxic topical preparation. A variety of topical therapies are approved by the U.S. Food and Drug Administration for treatment of AOE. Most options provide antimicrobial activity through an antibiotic, a steroid, or a low-pH antiseptic. Three meta-analyses determined that topical therapy is an effective first-line option and that there are no important differences in outcomes with different drug classes, with quinolones vs. nonquinolones, or with topical therapy alone vs. combination therapy with a steroid. Because there are few differences in effectiveness with most topical antimicrobials and steroids, the patient's preference and the physician's experience are important in choosing the treatment method, as are cost, therapy adherence, and possible adverse effects.

The delivery of ear drops can be improved by educating the patient on how to administer them. If the ear canal is obstructed, the physician should perform an aural toilet, place a wick, or both (based on observational studies with a preponderance of benefit over harm). The medication must be dispensed to the infected area for topical therapy to be effective. Delivery of the ear drops can be hampered by poor patient adherence, ineffective administration, or an obstruction (e.g., debris, edema closing the canal). Administering the drops can be difficult for patients, because it is done by feel. Of the patients who administer their own ear drops, only 40% do it correctly within the first three days. Patient adherence to ear drops is greater when another person administers the drops; therefore, this is the preferred method for administration when possible.

If a patient does not respond to initial treatment within 48 to 72 hours, the physician should re-evaluate the patient to confirm the diagnosis and to exclude other causes (based on observational studies and a preponderance of benefit over harm). The physician should evaluate the patient's adherence to treatment, including observing appropriate administration of the ear drops by the patient or another person. If the patient's symptoms do not resolve, but the failure of the therapy is not related to administration of the ear drops or microbiologic factors, this may indicate a comorbidity or incorrect diagnosis.

For patients two years or older, the management course for diffuse AOE is as follows:

- Analgesics should be prescribed based on the severity of the patient's pain.
- If the condition has extended beyond the ear canal or if indications for systemic therapy are present, systemic antimicrobials active against *Pseudomonas aeruginosa* and *Staphylococcus aureus* (alone or combined with topical therapy) should be prescribed. If needed based on the underlying condition, other management options should also be provided.
- If the condition has not extended beyond the ear canal and no indications for systemic therapy are present, the patient should be evaluated for perforated tympanic membrane or tympanostomy tubes. If either is present, topical therapy with a non-ototoxic preparation should be prescribed. If neither is present, topical therapy based on benefits, cost, adherence, and patient preference should be considered. Either way, the patient should be evaluated for an ear canal obstruction.
- If an obstruction is found, an aural toilet should be performed to remove the debris, and a wick should be placed if edema prevents administration of the medication.
- The patient should be counseled about administering ear drops, regardless of whether an obstruction is present.
- All patients should be evaluated in 48 to 72 hours to determine whether there has been any improvement in symptoms.
- If there has been no improvement, then the patient should be re-evaluated to determine whether another illness is contributing to the AOE. (If found, the illness should be treated.) If no other illness is contributing to the patient's AOE, administration of the medication, the patient's adherence to therapy, and the need to change therapy should be evaluated.
- If medication administration, patient adherence, and changing therapy have been evaluated, or if clinical improvement has been observed in 48 to 72 hours, the course of therapy should be completed.

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