

clinician's update™

SUPPLEMENT TO NAVC CLINICIAN'S BRIEF™

Canine Otitis Externa

IDENTIFICATION & TREATMENT



NAVC

clinician's brief™

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Canine Otitis Externa

IDENTIFICATION & TREATMENT

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Otitis Externa Protocol

■ History

- Age of onset
- Type and duration of treatment
- Past occurrences
- Concurrent or historic dermatologic complaints
- Seasonality
- Gastrointestinal complaints (suggestive of food allergy as underlying cause)
- General health (i.e., hypothyroid dogs may be lethargic in addition to having otitis)

■ Dermatologic Exam

- Skin and hair changes
- Evidence of pruritus

■ Otoscopic Exam

- Obstructive disease rule-out
- Tympanum assessment if possible
- Ulceration

■ Cytology

- >10 Yeast / hpf
- Cocci
- Rods
- Neutrophils
- Mixed infections

■ Treatment Choices

- Cleaners
- Topical antifungals
- Topical antibiotics
- Topical antiinflammatories
- Systemic antiinflammatories
- Systemic antibiotics

Canine otitis externa is a common and frustrating problem that can lead to otitis media if not adequately treated.

Identification of the cause and correct treatment of otitis externa can completely resolve clinical signs and prevent recurrence or development of more serious disease.

RECOGNIZING OTITIS EXTERNA

Successful management of otitis externa requires a thorough history and physical examination (see **Otitis Externa Protocol**). Most otitis externa patients present with head shaking and pruritus and owners may be aware of the discharge and/or odor that is characteristic. Otitis externa can be a recurrent problem and it has been noted that 82% of chronic cases also have concurrent otitis media.¹ The history can be crucial in establishing primary causes and concurrent complaints may provide additional clues (e.g., salivary staining of the feet suggests underlying allergy). Otoscopic exam in the awake patient may be limited by patient tolerance and the amount of debris in the ear canal. Goals of the otoscopic examination are to identify foreign bodies, ulcers (commonly seen with *Pseudomonas* infections), and ideally, to assess the tympanum. The tympanum may not always be visible, however, and it may or may not be ruptured in cases of otitis media. Frequently, the ears will be so painful that appropriate precautionary safety measures must be taken during the exam.

The presence of neutrophils on cytology may be the single most reliable indicator of otitis media on routine examination.

SELECTING TREATMENTS

Every abnormal ear should have a cytologic exam and treatment should be based on the findings (see **Selecting Treatments**). Cleaning agents are used in every case and prior to application of topical medications (see **Cleaning Technique** on page 4). Antibiotic resistance patterns and sensitivities of infective agents should be considered if treatment is to be successful (discussed in the following list).

- **Fungal infections** such as the yeast, *Malassezia*, can be suggestive of underlying allergy. Fungal sensitivities are not readily available nor are they usually necessary for selecting appropriate treatment.
- **Cocci** usually denote *Staphylococcus* infections, which are less likely to have resistance to first-line antibiotic treatment.

- **Rods** such as *Pseudomonas*, on the other hand, denote more serious infection. Resistance patterns are not as predictable and sensitivity testing is indicated before prescribing systemic antibiotics.
- **Neutrophils** in large numbers suggest otitis media and culture is indicated to select targeted systemic antibiotics.
- **Mixed infections** of bacteria with conflicting sensitivities require only that the dominant strains be treated as it is not mandatory that every species be covered. For example, if cytology demonstrated 4+ cocci and only 1+ rods, but culture recovered some *Proteus* and *Pseudomonas* along with a large population of *Staphylococcus*, sensitivities for the staph infection would be most important because they are the overwhelming population and by concentrating on them, more flexible treatment choices are possible.
- **Inflammation** with no infective agents indicates an allergic patient that could be helped with a topical antiinflammatory to preclude complicating infections.



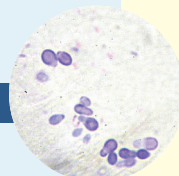
SELECTING TREATMENTS

CLEANERS/EAR PREPARATIONS (used in all cases of otitis)

Tetrasodium Edetate (EDTA solution)

TIP Place Tris/EDTA in the ear 15 minutes before treatment.

- Well tolerated
- Potentiates common topical antibiotics
- Direct bactericidal effects
- The ear preparation of choice in *Pseudomonas*



Yeast

TOPICAL MEDICATIONS

Antifungals

Yeast

- Nystatin
- Clotrimazole
- Thiabendazole

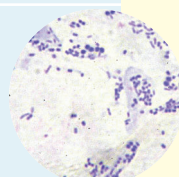
Antibiotics

Cocci

- Enrofloxacin*
- Neomycin
- Mupirocin

Rods

- Enrofloxacin*
- Aminoglycosides
- Polymyxin B



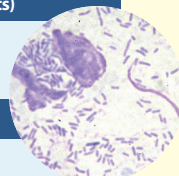
Cocci

NONSTEROIDAL TOPICAL ANTIINFLAMMATORIES (may be in combination products)

Mild

Inflamed, itchy, or allergic ears

- Silver sulfadiazine



Rods

STEROIDAL TOPICAL ANTIINFLAMMATORIES (may be in combination products)

Mild

Inflamed, itchy, or allergic ears

- Hydrocortisone

Moderate

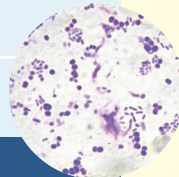
" "

- Dexamethasone
- Triamcinolone

Potent

" "

- Betamethasone
- Fluocinolone



Mixed

SYSTEMIC ANTIINFLAMMATORIES

For stenotic or painful ears

- Prednisone (oral)
(0.25 to 0.5 mg/kg daily for ~7 days)

SYSTEMIC ANTIBIOTICS

- Neutrophils seen on cytology
- Otitis media (82% of chronic otitis cases)
- Proliferative disease of the ear canal

Various antibiotics based on culture and sensitivity

Correct Use of Antibiotics to Prevent Microbial Resistance[†]

- Treatment is based on culture and sensitivity results.
- Treatment is carried out for a full 4- to 8-week period and never intermittently.
- Rechecks are conducted to assure that infection has resolved completely.

* Not associated with ototoxicity to date

† Combination antibiotic/steroid products included

“Inappropriate and intermittent use of topical antibiotic/steroid combination products is a leading contributor to increased microbial resistance in otitis and should be avoided to prevent recurrence and future treatment problems.”

—Jean Greek, DVM, Diplomate ACVD

TOPICAL VERSUS SYSTEMIC MEDICATIONS

Topical delivery of antibiotics to affected tissues can be as much as 1000× therapeutic blood levels. Remember, bacterial sensitivities are based on obtainable blood levels. Bacteria that are designated as resistant based on blood levels may be susceptible to topical antibiotics at a higher dose than is obtainable systemically. Unfortunately, many commonly used topicals have been associated with ototoxicity and care must be taken if the tympanum is not intact. Topical antiinflammatories are included in many commercial ear preparations to reduce inflammation and wax production and to prevent scar formation. Systemic antiinflammatories are indicated when the ear canals are stenotic or the ears are so painful that treatment is difficult. Systemic antibiotics based on culture results are indicated in otitis media and proliferative disease. For allergic patients with inflamed ears that are not infected, only antiinflammatory products are needed.

THOUGHTS ON MIXING YOUR OWN TOPICAL SOLUTIONS

It is common practice for veterinarians to mix their own “recipes” for otic medications. It is a practice that I avoid whenever a commercial product is available for a number of reasons: 1) changing the acidity of the mixture may decrease the bioavailability of the antibiotic;² 2) some common ingredients in these recipes can cause the antimicrobial to precipitate (i.e., aluminum and enrofloxacin); 3) commercially prepared products have a known shelf life; 4) ototoxicity has been reported with dozens of ingredients. Some commercially produced ear medications have been assessed for this problem.

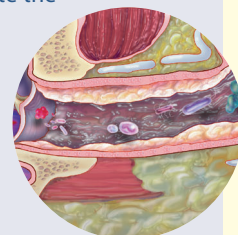
REFERENCES

1. Microbial flora and susceptibility patterns of isolated pathogens from the horizontal ear in dogs with otitis media. Cole LK. *1997 ACVD Proc*, pp 28-29.
2. Fluoroquinolone use and antibiotic resistance. Papich MG, White SD. *2002 ACVD Proc*, pp 203-209.
3. Baytril® Otic Canine Otitis Review & Product Monograph, Bayer Animal Health, Shawnee Mission, KS.

Cleaning Technique

All dogs with otitis externa are sent home with cleaning agents and proper technique should be demonstrated by a technician.

1. Use a large volume of cleaning solution to flush out debris (the astringent nature of some cleaners leaves the ear canal dry).
2. Gently massage the ear base to help distribute the cleaner and loosen debris.
3. Clean the external ear with cotton balls to remove debris and clean ears daily until less debris is seen, and then less frequently.
4. Discourage use of cotton swabs, “Q-tips,” or anything else in the ear canal. Recently, it has been suggested that use of Q-tips may be associated with strictures developing in the ear canal.
5. Ideally, put medication into the ear canal 15 to 30 minutes after cleaning to prevent dilution.



Product Profile

Bayer Baytril® Otic³
(enrofloxacin/silver sulfadiazine emulsion)

- First veterinary-approved fluoroquinolone in an otic preparation
- Unique combination of enrofloxacin and silver sulfadiazine
- Broad dual antibacterial and antimycotic spectrum
- Soothing, water-based, nonoily solution
- Provides flexibility for therapy with or without glucocorticoids
- Can be used in conjunction with enrofloxacin tablets to provide highly effective topical and systemic therapy when needed
- Use of Baytril® Otic in dogs with ruptured tympanic membranes has not been evaluated



Bayer *Made possible by Bayer HealthCare LLC*

Content for this summary was provided by Jean Greek, DVM, Diplomate ACVD.

See brief product summary on page 39 of *Clinician's Brief*.