Chronic Otitis & Surgery

Recurrent otitis externa is a common source of owner frustration in first-opinion practice. Owners have to deal not only with a pet that suffers from a recurrent painful and debilitating condition but also a constant financial drain without any apparent long-term remission.

Carbon dioxide laser therapy can be an invaluable tool in treating aural lesions.

Levels of Care

Where chronic disease is present, otitis media and otitis interna often accompany otitis externa. A full discussion of the diagnosis and management of otitis interna is beyond the scope of this article. However, the presence of otitis media will substantially change the way in which a case is managed, and the prognosis. Careful assessment of a pet is therefore crucial for an informed discussion with the owner about the suitability of the case for medical versus surgical therapy and the owner’s and the pet’s ability to adhere to long-term medical management compared with the risks associated with surgical intervention, together with the long-term costs of either approach.

Assessment of the Conscious Animal

A full clinical history and physical and dermatologic examinations are an integral part of the assessment of chronic ear problems. However, even before the animal is examined, the inner ear and middle ear can be visually assessed in a conscious animal in the consulting room. When only minor damage to the cochlea has occurred, slight reductions in hearing can be difficult to detect. Severe hearing loss will be more easily recognized if the dog or cat fails to respond to voice tones or external noises. When signs of vestibular dysfunction are present, it is important for the clinician to determine whether the animal is suffering from peripheral (PVD) or central (CVD) vestibular disease. Certain features remain common to both forms of vestibular disease: the presence of nystagmus (fast phase away from the side of the lesion), strabismus, a head tilt (directed toward the side of the lesion), and circling (toward the side of the lesion). Animals with PVD have horizontal or rotary nystagmus that does not change with the animal’s head position. Nystagmus in animals with CVD will change character and direction with a change in head position.

Assessment of the degree of chronic change in the external ear canal, middle ear, and internal ear allows the clinician to give an opinion to clients on the suitability of their pet for medical or surgical management. Unfortunately, however successful medical therapy may be, it might not be an option if the owners cannot follow the care plan (such as administering ear drops) because of physical disability or work or time constraints. Similarly, dogs with severe infection can be impossible to medicate because of their pain, apprehension, and, often, resulting aggression. In these cases it may be better to recommend surgical intervention at an early stage to prevent further suffering and make the best use of client resources.

In addition, animals with PVD may have ipsilateral facial nerve paralysis and Horner’s syndrome on the side of the lesion but no other cranial nerve involvement. With CVD, in contrast, other cranial nerve dysfunction can be identified. Facial nerve dysfunction caused by middle ear damage produces signs of unilateral ear and lip drooping; asymmetry of the corners of the mouth; and reduction in corneal, palpebral, and menace responses. The lacrimal gland is innervated by the major petrosal nerve, a branch of the facial nerve that runs through the middle ear. Damage to this nerve can therefore lead to
Assessment of the Unconscious Animal

Otoscopic examination often requires heavy sedation or anesthesia. With visual assessment of the canal, the clinician can check for the presence of fibrosis, ceruminous gland hyperplasia, polyps, and other findings, as well as the presence of the tympanic membrane. Radiography of the external ear canals is not always necessary, but open-mouthed rostrocaudal views can be used to highlight their integrity. In addition, canalography will outline the lumen and the presence of an intact eardrum.

In an anesthetized animal, further assessment of the middle ear is possible with gentle probing of the tympanic bulla with a 8-FG 50-cm (2.6 × 500 mm) urinary catheter. With experience, one can differentiate between palpation of a normal bony cavity and one filled with spongy granulation tissue.

Granulation tissue in the tympanic bulla can also be highlighted by oblique and rostrocaudal radiographic views. However, radiography is not the most sensitive method to detect soft tissue and bony changes within the middle ear. In up to 30% of cases of otitis media, animals do not demonstrate clinically significant findings. Both computed tomography (CT) and magnetic resonance imaging (MRI) may aid in diagnosis. CT gives better definition of osseous changes than MRI, whereas MRI gives better definition to soft tissue. In private practice, such advanced imaging techniques may not be available; diagnosis of otitis media is often based on a history of recurrent ear disease; neurologic signs; and the condition of the ear canal, tympanic membrane, and middle ear as noted at visual assessment and probing.

When to Consider Referral

Referral for medical management can be considered when the ear is not irreversibly damaged or when more advanced diagnostic tests performed by a boarded dermatologist can help establish the suitability for medical or surgical therapy.

Videootoscopic examination of the external ear canal allows the following:
- Better visualization of the canals and tympanic membrane
- Minor surgical intervention, such as polyp removal
- Myringotomy to assess middle ear function by palpating the bulla (as described above) and to collect fluid samples from the middle ear for cytology/culture and sensitivity by gentle aspiration or lavage with sterile saline
- More effective flushing and instillation of drugs directly into the middle ear.

BAER (brainstem auditory evoked response) testing can establish the degree of hearing loss. This is performed by the author both before and after therapy to help determine the prognosis for a full return to hearing. This may be particularly important in working dogs.

MRI allows assessment of the following structures and is preferred over CT because of its higher degree of definition for soft tissue:
- Integrity of canals and tympanic membrane
- Tympanic bullae
- Inner ear: semicircular canals and cochlea

The need for referral for surgical treatment to a boarded surgeon can be difficult to determine at the first consultation. However, topical and systemic steroid therapy for 7 to 10 days can be prescribed to reduce the inflammation in the canal and open it up, thereby making assessment easier. Referral should be considered under the following circumstances:
- When the ear is considered to be irreversibly damaged and the primary care clinician does not have a high level of surgical expertise
- When nonmedical factors, such as animal temperament or owner compliance, render the case unsuitable for medical care.

The following are criteria for irreversible damage:
- Occlusion of the canals due to fibrosis, hyperplasia, or calcification
- Excessive granulation tissue within the tympanic bullae
- Severe otitis interna or otitis media.
When Referral Is Not an Option
Referral may not be possible because of several factors:
• Owner’s lack of financial resources or time
• Too-great distance to a referral center
• Animal’s age or debilitation.

In such situations, the clinician must discuss with the client, and note for future reference, possible limitations of this approach, but should aim to keep the animal comfortable. This may mean careful use of topical and systemic steroids in the ear canal (to reduce inflammation and swelling and provide analgesia), topical antibiotic therapy, or surgical intervention by the primary care veterinarian.

The Referral Process
The client should be advised about the following:
• Time commitment and rechecks
• Costs

• When and from whom test results will be available
• Whom the client should contact if problems occur.

The referring clinician should provide the following:
• A detailed report of the animal’s medical history
• Results of previous cultures and cytology
• Radiographs and other advanced images, appropriately labeled.

The referral clinician should provide:
• Appropriate information to the client (as above)
• A report (prepared immediately after the first consultation) to the referring veterinarian containing appropriate diagnostic results (eg, videootoscopic images and BAER traces)
• Follow-up report after return of biopsy or culture results

Specialized equipment (such as the videootoscope) can help visualize damage to the eardrum.

• Clear indications for therapy as discussed with the owners, with long-term prognosis.

See Aids & Resources, back page, for references, contacts, and appendices.

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