



Sylvie Wilhelm, Dr. med.
vet., Dipl., ECVD

VET Dermatology GmbH
Switzerland

vetdermatologyschweiz@
gmail.com

PINNAL AND EAR DISEASES PART 1 & 2

Pinnal diseases

There are many dermatologic diseases, which affect the pinna, but mostly in combination with other skin regions. Only a few are confined to the pinna or at least initially affect the pinna. During the lecture the most important diseases will be briefly discussed.

Otitis externa

There is a wide range of possible aetiologies causing otitis externa. However, in order to successfully treat such cases it is important to understand that not only primary and secondary causes, but also predisposing and perpetuating factors have to be evaluated:

Predisposing factors: Increasing the risk of otitis, e.g.

- Pendulous (heavy/hairy) pinnae
- Stenotic ear canals
- Excessive hair growth in ear canals
- Intense swimming
- Overproduction of cerumen
- Iatrogenic (hair plucking, trauma from cleaning, over cleaning)

Primary causes Triggering an otitis, e.g.

- Allergy
- Parasites
- Endocrine and metabolic diseases
- Miscellaneous (foreign bodies, polyps, eosinophilic granuloma complex)
- Neoplasia
- Immune-mediated diseases
- Keratinisation diseases (e.g. sebaceous adenitis)
- Viral diseases

Secondary causes Do not cause diseases in a normal ear, but contribute or cause additional pathology in an already abnormal ear

- Bacteria
- Yeasts

Perpetuating factors Occurring in response of an otitis, aggravating the inflammation and prevent the resolution of the otitis, e.g.

- Oedema, hyperplasia, stenosis, calcification, etc.
- Decreased epidermal cell migration
- Tympanic membrane hyperplasia, diverticula, rupture
- Otitis media

Diagnostic procedures

Several diagnostic tests are very helpful and necessary for a successful treatment of the dog's ear. The best way to approach an otitis externa is to start with a detailed dermatological anamnesis, followed by an examination of the whole animal, then looking at the pinnae, the ear canal on both sides and finally the microscopic examination of the discharge, again of both sides.

Although otoscopic examination is a helpful tool to get an impression on the perpetuating factors (e.g. tympanic membrane), it is not always possible to perform this step at the initial consultation. Many dogs are too painful and even under sedation a highly oedematous ear canal cannot be penetrated by the otoscope, unless causing additional trauma.

The use of a video otoscope is recommended, as in general the light is more intense and it has a better magnification, making it easier to spot small foreign bodies. In addition the tympanic membrane can be better visualized (e.g. small tears). Cytology of the exudate should always be performed initially and at each recheck. In general bacterial culture is not always necessary. If there is no response to the treatment or if rods are detected a culture can be helpful in detecting the right antibiotics. However, as the ears are often treated topically, the reached concentration is usually much higher than the one used for the in vitro testing and can so often overcome resistance.

Otitis media

Often dogs with otitis media show no symptoms at all. However hints for otitis media can be found in the anamnesis: chronicity of otitis externa (about 80% of the chronic cases have concomitant otitis media), refusing to eat bones, pain while yawning. Some dogs are painful on palpation of the bulla and a small percentage show neurological symptoms like Horner's syndrome, keratoconjunctivitis sicca, parasympathetic nose or facial paresis. On otoscopic examination an abnormal tympanic membrane, even when still intact is a hint for otitis media. Myringotomy might be necessary to obtain cytology from the middle ear. Always perform cytology as it is more sensitive than a bacterial culture. Diagnostic imaging (CT, MRI and less X-ray) is also valuable to assess the extent of the damage and to formulate a prognosis.

Management of otitis

Ear flushing and myringotomy

The cleaning of the ear is an important part of the treatment. It accelerates the recovery in several ways:

- Reduction of the inflammatory exudate
- Improvement of the efficacy of the medical treatment
- Reduction of pathogenic substances
- Elimination of small foreign bodies

Once the external canal is clean, the tympanic membrane can be assessed. If necessary a myringotomy (to gain access to the bulla for taking samples and flushing) can then be performed. Care should be taken not to harm the round window while flushing, which would lead to permanent damage of the cochlea.

After the flushing medical treatment can be started. Besides treating the secondary causes, try always to identify and to manage the primary cause. Treating the secondary causes alone will improve the otitis, but it will reoccur.

In order to choose the right medical treatment, cytology should always be performed to identify the causing agents. Also the nature of the exudate is important, as "oil should always be mixed with oil and water with water".

If possible always choose a topical treatment, as it reaches directly the inflamed parts. Additionally a high concentration of antibiotics can also overcome resistance, which is particularly in pseudomonas infections important. In cases of malassezia otitis a topical treatment is usually sufficient. When the ear canal cannot be treated topically (e.g. pain, stenosis, compliance etc.) a systemic treatment is indicated. In severe infections it can also be combined with topical medicaments. Cephalexin and amoxicillin / clavulanic acid are good first line drugs. In Pseudomonas otitis fluoroquinolones are the first choice.

As an ear cleanser can be painful in highly inflamed ears, it is easier to start with it only after the initial therapy.

References

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