Diagnostic approach to dogs with otitis externa

Otitis externa in the dog is a very common clinical presentation and one of the most common diseases in the dog that lead to a visit to the veterinary practice (Hill et al, 2006). Otitis can be a very painful condition, which often recurs due to failure to identify and successfully treat the underlying disease. This article is part of a series of reviews on different aspects of ear disease and discusses the diagnostic approach to cases of otitis externa.

Key words: otitis externa, primary disease, perpetuating disease, predisposing disease, ear cytology, otoscopy

Introduction

Many dogs are presented to first opinion and referral veterinary dermatology practitioners with ear disease (Hill et al, 2006). This condition can be chronic and/or relapsing and frustrating to treat. In order to provide best patient care, it is important to have a thorough approach to each case presenting with this painful and common clinical condition. August (1988) suggested a system describing the P(rimary), P(redispensing) and P(erpetuating) factors implicated in otitis and all of these factors need to be carefully addressed to achieve a positive outcome for the dog, owners and ultimately also the veterinary surgeon.

Primary factors

Primary factors can cause otitis in a normal ear. As the ear canal is lined with skin, which is only slightly modified compared to haired skin, generalised dermatitis can be the primary cause of otitis. Allergic diseases (atopic dermatitis, adverse cutaneous food reactions, flea allergic dermatitis) (Figure 1), hormonal diseases (e.g. hyperadrenocorticism, hypothyroidism), keratinisation disorders (e.g. primary seborrhoea, sebaceous adenitis etc), parasitic diseases (e.g. ear mites, Demodex spp. and ticks), and autoimmune diseases are examples. In localised and particularly unilateral disease, foreign bodies and neoplasia are more likely underlying problems but more generalised skin disease cannot be ruled out. Saridomichelakis et al (2007) found allergic dermatitis (43%), grass awns (12%) and otoacariasis (7%) to be the most common primary factors.

Predisposing factors

Certain factors that are present before the problem begins, can predispose to ear disease, such as the conformation of the pinnae (Figures 2a–c), e.g. floppy ears in setters, spaniels etc; narrow ear canals, e.g. in Shar peis; hairy ears, e.g. Poodles and Cocker Spaniels (Stout-Graham et al, 1990), unsuitable treatments, e.g. frequent cleaning with a harsh cleaner (Figure 3) or the use of ear buds; or lifestyle factors, e.g. frequent swimming. However, on their own and without an underlying condition, these factors do not necessarily cause ear disease.

Perpetuating factors

Perpetuating factors include changes that are caused by the ear disease itself and make the disease more likely to persist, such as stenosis due to swelling of the lining of the ear canal, otitis media (Figure 4), ceruminous gland hyperplasia, increased humidity, excessive discharge, dysfunction of the epithelial migration, calcification of the ear canals, debris in the middle ear or a dilated or ruptured tympanic membrane. August (1988) also classified organisms such as bacterial cocci and rods and yeast in this category. However, more recently, Griffin has reclassified bacteria and yeast as secondary factors along with drug reactions and overcleaning of the ears. This system is currently referred to as PSPP.

P - primary factors
S - secondary factors
P - predisposing factors
P - perpetuating factors

Clinical signs

Dogs with otitis can present with a variation of several clinical signs including otic pruritus/irritation, malodor, headshaking, otic discharge, head tilt, aural haematoma, painful ears, inability to chew hard food due to pain and erythema. In mild cases owners may be unaware of the problem.
Signalment

The age and breed in particular can be valuable items of information in terms of making a diagnosis in cases of otitis (Table 1). Ear mites are more common in young dogs and possibly in certain breeds, e.g. Cocker Spaniels (Cristina, 2007). Neoplasia on the other hand is more common in older patients, particularly if they suffer from unilateral disease and have never had any ear or skin problems previously.

Adult dogs are more likely to develop allergies, with one to three years the most common age at onset, but dogs from six months onwards are certainly being seen on a regular basis.

The importance of ear conformation has been discussed and the breed is therefore also important. Many breed predispositions exist for diseases such as atopic dermatitis as a possible primary factor.

History

Taking a thorough history is a very important part of the investigation of all dermatological cases and cases of otitis externa are no exception (Table 2). Important aspects include the owner’s complaint, lifestyle (e.g. swimming), progression of the disease (acute, gradual, chronic, relapsing), other medical issues; particularly skin problems elsewhere, seasonality, prior treatments, eating habits and tests that have already been performed.

In terms of clinical signs, owners often complain about head shaking, foul odour, discharge, excessive scratching of the ears and pain when touching the ears.

Table 2: Useful questions to ask when taking a history

- Have you seen any headshaking or scratching?
- Have you noticed any discharge from the ears?
- Do other pets lick the patient’s ears?
- Do you use any ear cleaner/drops or powders?
- Are the ears malodorous?
- What was the first thing you noticed?
- Is your pet itchy elsewhere?
  If so, how itchy?
- Is this the first episode of ear problems?
- Is your dog very clean, e.g. does it lick its paws?
- Has your pet any other health issues e.g. increase/loss of appetite, thirst and exercise tolerance; vomiting/diarrhoea?

Table 1 – Signalment: The influence of age on the diagnosis

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<thead>
<tr>
<th>Young</th>
<th>Young adult</th>
<th>Older</th>
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<tr>
<td>Ectoparasites</td>
<td>Allergies (75% of atopic dermatitis 6 months to 3 years old)</td>
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<tr>
<td>Dermatophytosis</td>
<td>Immune-mediated dermatoses</td>
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