Rabbit Ear Infections

Ear infections are common in pet rabbits, especially rabbits with a lopped ear conformation. The cartilage of the ear canal is deformed in these breeds, resulting in narrowing or even complete closure of the ear canal. Normal wax can build up and in bacteria are then trapped in a warm, moist environment allowing infection to occur. Untreated infections in the external ear canal (otitis externa) can eventually result in abscesses or rupture of the eardrum that then leads to infection of the middle ear. Middle ear infection (otitis media) can also be caused by the spread of respiratory infections from the nasal cavity.

Rabbit ear mites are a very common cause of external ear infection in all types of rabbits and is often seen as brown, thick crusts on the inside of the ear. These infections are very responsive to treatment and prognosis is excellent.

The middle ear is made up of a bone cavity called the tympanic bulla that sits adjacent to the skull and includes the components of the inner ear. Middle ear infections can result in very serious disease that eventually invades the bone of the tympanic bulla. This is called osteomyelitis and the prognosis for cure once this develops is considered grave.

Symptoms

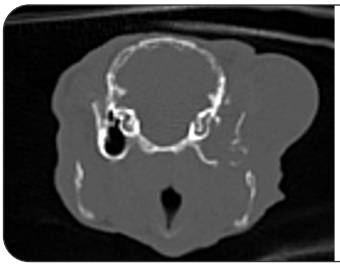
In most cases, rabbits will not show obvious discomfort. There may be no symptoms at all until the disease is very advanced.

Symptoms of infection of the external ear canal can include:

- Reduced hearing
- Shaking the head
- Scratching at the ears
- Swellings forming at the base of the ears
- Recurrent episodes of unexplained gut stasis

Symptoms of middle ear infection can additionally include:

- Asymmetrical facial features
- Problems with the vestibular (balance) system – head tilt, irregular eye movements, circling, rolling or falling
- Difficulty chewing



In cases of otitis media, the facial nerve can be impacted by the presence of infection in the bone of the tympanic bulla. This can result in atrophy of the muscles to the affected side of the face, leaving rabbits with the appearance of having had a stroke. Many also have difficulty completely closing the eye on the affected side and can develop problems with the surface of the eye as a result.

Diagnosis

Physical examination

External ear infection and abscesses a the base of the ear can be detected on a thorough physical examination that includes otoscopic visualisation of the canals. In many cases in lop eared rabbits, it can be very difficult to see into the canal because of the narrowing so infection can be missed.

Cytology

In some cases, a sample of discharge is collected for testing. This is examined under the microscope to determine if infection is present and whether bacteria and/or yeast are involved. In cases of ear mites, they are readily seen on examination of crusts under the microscope. Samples may additionally be sent for culture and sensitivity, where the type of bacteria are identified and the most appropriate antibiotics are determined.

Imaging

Diagnosis of middle ear disease requires advanced imaging, such as a CT scan. X-rays are typically of limited use in diagnosis of ear disease in rabbits unless there are very advanced changes, such as osteomyelitis. CT scans are typically safe and can be performed under sedation.

SASH Avian & Exotics
sashvets.com

North Ryde
1 Richardson Place, North Ryde
(02) 9889 0289
info@sashvets.com

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Small Animal Specialist Hospital

Treatment

Medical treatment

External ear disease (Otitis externa)

Ear mites are readily treated with topical skin parasiticides and resolution typically occurs in a few weeks. Response to medical treatments for otitis externa caused by bacteria or yeast in lop eared rabbits is typically poor. Medical treatments, including cleaning and topical medications are very unlikely to achieve a cure. The discharge that is present with infection is often very thick and cannot be dislodged easily. Topical treatments put on top of this discharge cannot get directly to the ear canal lining. Antibiotics given by mouth, also often fail to reach the ear canal. The development of resistant bacteria is very common with repetitive topical or systemic antibiotic treatments.

Cleaning of the ear canal with the use of a camera can be performed under general anaesthesia. This can be effective for removing large amounts of discharge but in lop ear rabbits, recurrence of infection is typically rapid.

Middle ear disease (otitis media)

There is no medical treatment for infection of the middle ear. Palliative pain management is typically all that can be offered.

Surgical treatment

External ear disease (Otitis externa)

Lateral ear canal resection (LECR) or lateral ear canal ablation (LECA) is a commonly performed surgery to open the ear canals. By providing a larger opening, the ear canal is more exposed to the air and there is less canal remaining for discharge to accumulate. It makes cleaning of the remaining ear canal much easier and in many cases can lead to complete resolution of external ear infections.

Middle ear disease (otitis media)

In cases of middle ear infection that remain contained to the tympanic bulla, a modified lateral ear canal resection is performed – Lateral ear canal resection and bulla osteotomy (LECR-BO). This typically involves extending the opening further down, to the top of the bulla, so the cavity can be cleaned of discharge. In some cases antibiotic gel or impregnated beads can be placed in the bulla.

In advanced cases of middle ear disease, where infection has invaded the bone (osteomyelitis), surgery is very unlikely to be curative. In some cases, surgery can be done to provide pain relief and slow the progression of the infection.

Surgery is performed under general anaesthesia and at SASH all rabbits undergoing LECR or LECR-BO receive strong intravenous pain relief during and after surgery, as well as nerve blocks to numb the ears. A culture is always performed on the discharge from both ears since resistant bacteria are very common and the appropriate antibiotic must be selected. The average hospital stay is 1-3 days and they are discharged with anti-inflammatories, antibiotics and in some cases topical ear drops. The appearance of the incisions following surgery is often variable but some degree of crusting and discomfort is expected. Around 2-3 weeks the stitches begin to fall out the crusting falls away, revealing a healed incision. White discharge underneath the crusting and redness of the skin can indicate infection that must be treated promptly. Scratching at the incisions can be more likely to lead to dehiscence and infection.

The risks of surgery include ongoing infection of the ear canal or tympanic bulla, infection of the surgical incisions, breakdown of the surgical wounds and anaesthetic complications (very rarely death has been reported). In cases of surgery on the middle ear, there is additional risk of significant haemorrhage, damage to the nerves supplying the face or vestibular symptoms (head tilt, erratic eye movements and problems with balance). Vestibular symptoms, if they occur, are more often transient but can be permanent.

Prognosis

In all rabbits, the prognosis for resolution of ear mite infection is excellent. The prognosis for external ear infection in normal ear rabbits is excellent with medical treatment. Lop ear rabbits have a more guarded prognosis, especially with middle ear disease. Prompt diagnosis is essential and in cases of external ear infection, surgery can be an effective treatment and prevent the development of more serious infection.

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