Corneal Sequestrum in Cats

A corneal sequestrum is an area of dead corneal tissue. It usually appears as a brown, black or dark amber plaque on the surface of the eye. Some sequestra are quite superficial, while others extend more deeply into the cornea. They can cause mild irritation (as far as we can judge this), but they can also be very painful and, in some cases, put the eye at risk of serious complications.

Why it develops

Corneal sequestra usually develop because of ongoing corneal irritation or previous corneal injury. The cause is often multifactorial, which means that more than one problem may be involved. Contributing factors can include brachycephalic conformation, entropion, hairs rubbing on the eye, poor tear film distribution, corneal exposure, previous ulceration, chronic keratitis, feline herpesvirus infection, and trauma. Persian, Himalayan, Exotic and other brachycephalic cats are particularly prone, but any cat can be affected. Where possible, identifying and correcting contributing problems is an important part of treatment, both to help the affected eye heal and to reduce the risk of recurrence.

Natural course

Some small, superficial sequestra may eventually loosen and separate with medical management alone. However, this often takes many weeks or months. During that time the eye may remain uncomfortable and require ongoing treatment and monitoring.

Medical treatment also does not guarantee that the sequestrum will lift away safely. Less commonly, instead of extruding, the sequestrum can deepen. If this happens, the cornea may perforate and the eye may rupture. This is an emergency situation and may lead to loss of the eye.

Treatment

Medical treatment may be reasonable if the sequestrum is small, superficial, stable, and the eye is comfortable. This usually involves lubrication, topical antibiotic treatment if needed, and pain relief where appropriate. Medical treatment is mainly aimed at keeping the eye comfortable while monitoring closely for progression.

Surgery is usually the preferred treatment, especially if the sequestrum is deep, painful, longstanding, or there is concern that the cornea is weakening. It is performed under general anaesthesia using an operating microscope. The sequestrum is removed by keratectomy and, depending on the depth of the remaining defect, the cornea may need support with a conjunctival graft, corneal graft, or another flap or graft procedure. These techniques help protect the eye, support healing, and reduce the risk of perforation.

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Surgery also allows contributing factors to be corrected at the same time where possible. For example, if entropion or another eyelid abnormality is causing corneal irritation, corrective eyelid surgery may be recommended during the same anaesthetic, either in the affected eye or, occasionally, in both eyes.

Surgery usually provides the quickest and most reliable route to resolution. However, no surgery can guarantee a successful outcome.

Risks of surgery

Most cats do very well after surgery, but complications are possible. The risk depends partly on the depth of the sequestrum, the health of the surrounding cornea, whether a graft is needed, and whether underlying causes can be corrected.

Possible complications include infection, delayed healing, breakdown of the corneal surgery site, graft failure, worsening corneal ulceration, corneal perforation, or rupture of the eye. Further surgery may be needed in some cases. At worst, if the eye cannot be saved or becomes painful and blind, enucleation, which is removal of the eye, may be required.

Some corneal scarring is expected, especially if a graft has been placed. This usually improves gradually over several months, although the cornea may not return to a completely normal appearance.

Aftercare

Medication (eye drops and oral medications) and follow-up examinations are needed during healing. A buster collar is usually required for around 7 to 10 days, and sometimes longer depending on the procedure and the cat.

The eye often looks a little cloudy and red after surgery, particularly if a graft has been placed. This is expected and usually improves gradually. Corneal scarring tends to fade over 3 to 6 months, although some permanent opacity may remain.

Recurrence and outlook

The outlook is generally good if the sequestrum is treated before the cornea becomes dangerously thin or perforates. Most cats are much more comfortable once the sequestrum has been removed, and the majority heal well.

Recurrence is possible. Another sequestrum may develop in the same eye or the other eye, either soon afterwards or months to years later. This cannot be predicted accurately, but the risk may be reduced by correcting underlying causes such as entropion, improving tear film support, and managing chronic ocular surface disease where present.

The final appearance of the cornea depends on how deep the sequestrum was, whether grafting was needed, and how the eye heals. The main aim is to preserve a comfortable, visual eye wherever possible.

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