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CORNEAL SEQUESTRUM

The cornea is the normally clear area at the front of the eye. It has four main layers, and the outer layer is called the epithelium. In order to maintain its clarity, the cornea normally has no blood vessels in it.

What is a corneal sequestrum?

Corneal sequestrum formation occurs almost exclusively in cats. A sequestrum is an isolated area of dead or necrotic cornea. The dead area takes up pigment (which it probably gets from the tears), and becomes amber brown, dark brown or black in colour. This is an area of corneal ulceration (a break in the outer epithelial layer) and hence causes discomfort and tearing. The condition may be diagnosed by clinical appearance alone.

What causes a corneal sequestrum?

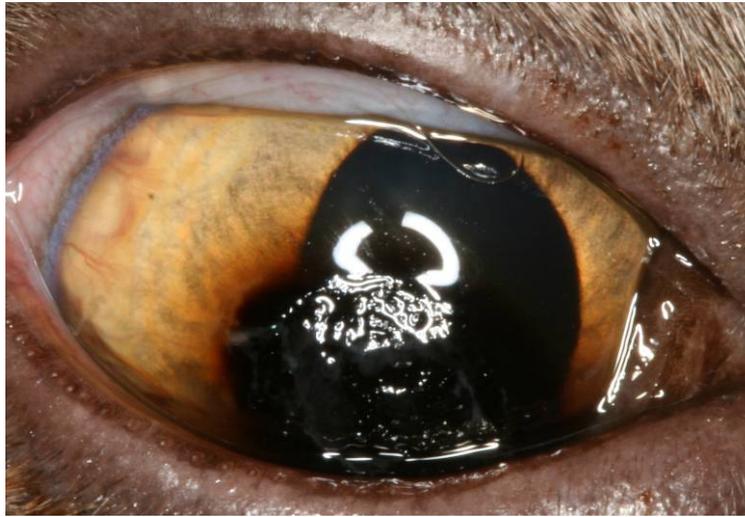
The cause is unknown, and this condition occurs almost exclusively in cats. There is thought to be a link with feline herpesvirus-1 infection. It may occur in an area after repeated corneal ulceration, but in a pre-disposed breed (see below) it may happen after just one incident of corneal ulceration. It is also associated with poor corneal sensitivity which delays corneal healing, and this is present in many brachycephalic cats (cats with shorter noses). Repeated treatments to try to heal a superficial ulcer such as grid keratotomy, used in dogs to encourage healing, can result in sequestrum formation.

Are some cats more prone than others to developing the condition?

There is a breed predisposition for sequestrum formation. Most commonly they are found in Persian, Himalayan and Siamese cats. However, a proportion of domestic cats ('moggies') can also be affected.

What are the signs of a corneal sequestrum?

A corneal sequestrum is irritant to the eye, and the cat will normally hold the eye shut or half-shut, squint, and the eye will be watery. There will be an amber brown, dark brown or black 'spot' within or on the cornea. The area around this may be cloudy, and blood vessels may be growing across the eye towards it. Your vet may notice that this area is ulcerated, which means that there is a break in the epithelium (outer layer of cornea) around it.



How is corneal sequestrum treated?

This condition may be treated medically or surgically. Which treatment is chosen is selected on the individual case and circumstances.

1. Medical management. With careful medical management, a sequestrum can slowly 'slough' off the front of the eye. This process may take a year. The concern is that the eye is uncomfortable for most of this time, and that the damaged cornea left behind could develop another sequestrum. Medical treatment may be artificial tears, Interferon (an anti-viral), antibiotics, or a combination.

2. Surgical management. In most cases, surgery provides for a more rapid and complete resolution of the condition and it is less likely (although still a possibility) that the condition will reoccur. This procedure involves removing the affected cornea using a superficial or deep keratectomy. The remaining deficit will be left to heal if there is a good blood supply. However many cases require a graft to be placed on the area to provide the blood supply and nutrition to heal the ulcerated area effectively. This graft is normally provided by raising a flap of pink conjunctiva next to the eye and suturing it into the surgery site, called a conjunctival pedicle graft. This conjunctival flap is normally left in position permanently as studies have shown that this greatly reduces the likelihood of recurrence. An alternative surgical procedure called a corneo-conjunctival transposition, involves raising a flap of adjacent healthy cornea and sliding it over the affected area, and this is performed alternatively in certain circumstances.

What is the likelihood of recurrence?

It is possible that another sequestrum will develop but most cats heal well. If another sequestrum develops it can happen in days, months or years, and it cannot be predicted. If it does recur, further surgery will be recommended.