Melting Ulcers

A melting ulcer is a very serious infection of the cornea. They arise from an ulcer that has become infected but some bacteria can actually attack a normal cornea leading to a melting ulcer.

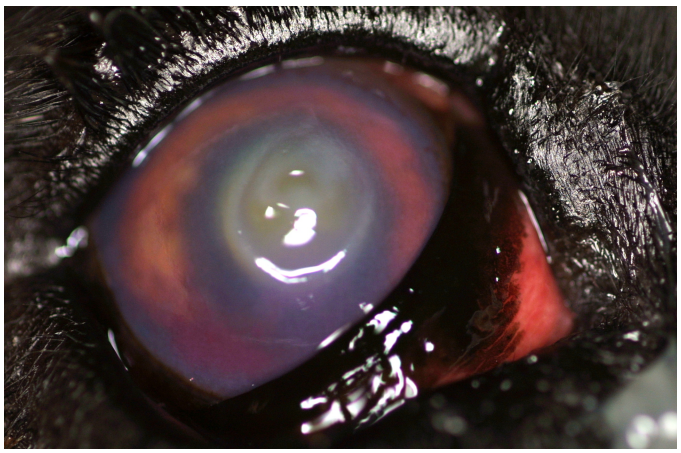
Certain bacteria (such as Pseudomonas or Beta-haemolytic Streptococcus) can release enzymes called collagenases and proteases. These enzymes attack the cornea and cause rapid degradation of the corneal structure. In addition, the eye reacts to the infection by allowing white blood cells (such as neutrophils) to enter the tear film to help fight the infection. These cells, however, also release enzymes which contribute to the corneal destruction. The term "melting ulcer" is used to describe these ulcers because the cornea literally starts to melt away - the enzymes make the cornea soft like melting candle wax, and the cornea begins to "drip" off the surface of the eye.

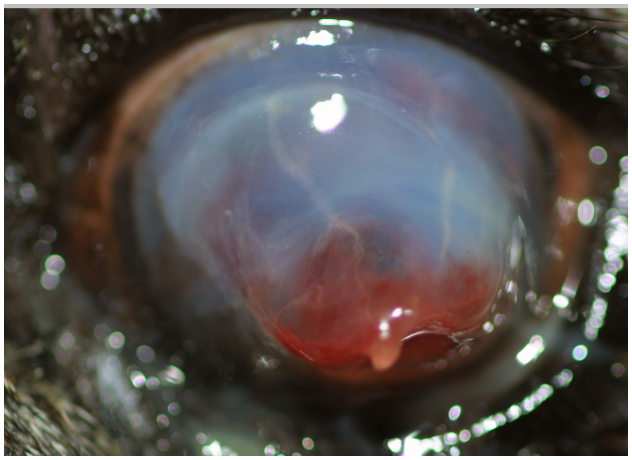
It is very important to remember that topical corticosteroids can make ulcers much worse and will promote the development of melting ulcers. Never use topical steroids without having your veterinary surgeon check to see if there is an ulcer present.

Melting ulcers turn very bad very quickly. It is possible to go from a normal cornea to a perforated eye in 24 hours. As such these ulcers are an absolute emergency and are often referred to a specialist to provide the best outcome.

Melting ulcers are characterised by having a grey gelatinous appearance. This is due to a combination of oedema and cellular infiltration, together with the corneal degradation. The whole cornea goes very cloudy and there is often pus inside the eye (termed hypopyon).

Later the characteristic signs of melting occur and the corneal tissue begins to drip away.





Aggressive treatment is required for melting ulcers. Unfortunately the bacteria that cause melting ulcers are often immune to the most commonly used antibiotics and special drops are required to treat these infections. Topical fluoroquinolones (e.g. ofloxacin, ciprofloxacin) are generally used. These drops need to be applied very frequently in the initial stages of treatment - often hourly during the first 24 - 48 hours, including all through the night. If asked to do this it is important to follow these instructions as best you can as this makes a huge difference to the outcome. Sometimes ancillary treatments (e.g. topical serum or acetylcycsteine) are employed to reduce the melting that occurs in the corneas. Pain control in the form of atropine drops and analgesic tabets is recommenced.

Surgery may often be required for melting ulcers because the infection leads rapidly to loss of corneal strength and these eyes are in grave danger of perforation. Most veterinary surgeons will refer melting ulcers to a specialist to allow the best outcome for these very aggressive ulcers.