



The Liphook Equine Hospital

KERATOMA

What is a Keratoma?

A keratoma is a rare benign tumour of the inner layer of keratin-producing epidermal hoof wall cells which forms inside a horse's foot. As the tumour slowly grows, it expands and separates the hoof wall laminae, causing pain and chronic lameness. Pressure on the pedal bone caused by the space-occupying mass beneath the hoof wall causes bone resorption in the underlying pedal bone. Keratomas tend to develop more commonly at the toes and any of the feet may be affected.

What causes a keratoma?

The precise cause of keratoma is unknown but some cases appear to follow injury to, or inflammation of, the hoof and coronary band.

How is a keratoma diagnosed?

The first signs are usually bulging of the hoof wall at the coronet. The severity of lameness depends on the size, position and speed of growth of the tumour and may appear as sudden onset or chronically-progressive lameness.

On examining the sole of the horse's foot, the white line is distorted and deviates towards the frog behind the tumour. The horse may show pain when hoof testers are applied over the tumour. When the tumour grows down to the sole, the white line separates. Occasionally, infection tracks up between the distorted laminae and pus may be found at the white line of the wall/sole junction or from the coronary band.

Radiographic (x-ray) examinations of the foot demonstrate a characteristic area of well-defined loss of pedal bone density caused by tumour formation and bone resorption.

Precise confirmation of the diagnosis can be achieved by examining a processed microscopic section (histological examination) of the removed tissue.

How can a keratoma be treated?

The keratoma and overlying hoof wall requires surgical removal, under local or general anaesthesia. Parallel cuts are made in the hoof wall on either side of the tumour, and the section of hoof wall is carefully prised away from the underlying sensitive laminae.

The surgical wound is then packed with sterile gauze soaked in antiseptic solution (e.g. dilute povidone iodine) and the foot is bandaged, cast or fitted with a hospital plate. A hospital plate is an aluminium plate specially made to fit over a specially made shoe, with accommodating

screws, so that the plate can be removed and replaced for wound treatments. The plate protects the surgical wound and dressings.

Thereafter, the bandage and antiseptic gauze pack is changed every 2-3 days until a layer of dry protective cornified laminae have formed. The affected foot is then usually shod with a full-bar shoe with clips either side of the hoof wound, to help stabilise the hoof wall defect. The horse should be kept in clean dry conditions until the wound is completely healed.

How can a keratoma be prevented?

Being a tumour, methods of prevention are unknown, but injury to or inflammation of the coronary band should be rapidly and efficiently treated.

Caution

Growth of new epidermal laminae to restore the hoof wall is a slow process, but with patience and careful management the prognosis for soundness and return to athletic activity is usually good.

When the tumour grows down to the sole, separating the white line, infection may gain access, so be aware for abscess formation.

Keratomas are benign tumours, i.e. they do not metastasise or spread to other parts of the body, but sometimes recur at the same site, following incomplete surgical removal.

Rarely, more than one keratoma may be present in the same foot.