Changes in vascular fill following deep digital flexor tenotomy demonstrated by digital venograms: 5 cases.

E Lordan DVM and L Wells-Smith.

The Equine Podiatry and Lameness Centre, 14 Aberdeen Street, Muswellbrook NSW 2333, Australia.

Introduction

Vascular filling defects noted on a venogram often precede the classic radiographic findings of an episode of laminitis. Digital venogram allows practitioners to identify horses with early vascular changes, isolate those areas of the foot experiencing vascular compromise and monitor the horse’s response to treatment. Deep digital flexor tenotomy (DDFT) is recommended to limit the progression of a severe laminitic episode. As a complement to the surgery a shoe is applied parallel to the solar surface of the distal phalanx, (de-rotational shoeing).

Materials and methods

This was a retrospective case series focusing on horses examined between 2013 and 2014. Horses showing signs of laminitis, clinically deteriorating despite conservative management and showing decreased vascular filling on the initial venogram were included in the study. Horses selected had DDFT performed and a follow up venogram within 10 days of the surgery.

Results

Five horses fit the inclusion criteria for the study. The cases selected included a 16 year old thoroughbred broodmare with complications from grain overload, an 8 year old arabian broodmare with surgical enterolith removal, a 10 year old thoroughbred broodmare with supporting limb laminitis, a 19 year old stock horse stallion with acute colitis and a 4 year old thoroughbred mare that developed laminitis secondary to severe limb cellulitis. All horses demonstrated severe vascular compromise as a result of laminitis in one or both feet in the preliminary venogram. Two horses had unilateral DDFT performed and the remaining 3 horses had bilateral DDFT. Venograms after surgery and derotational shoeing demonstrated an improvement in vascular fill compared to initial venograms in both cases of the unilateral DDFT and in two cases of bilateral DDFT. The third bilateral DDFT showed an improvement in one foot while the other showed deterioration of vascular fill pattern. Three of the horses survived to discharge while the remaining 2 horses were euthanised due to further clinical deterioration. Of the surviving horses, the arabian mare made a full recovery and produced a live foal, the other mare survived to foaling but was euthanised due to continual deterioration. The stock horse stallion returned to light breeding for a year but was subsequently euthanised due to chronic pain.

Relevance to clinical equine practice

The venogram is a diagnostic tool to monitor changes in vascular supply even in the absence of significant radiographic changes in the laminitic horse. It can be used not only as an indicator of vascular compromise, but also to monitor response to therapy. Although severe cases of laminitis are difficult to treat, the venogram can be useful in guiding current and future therapeutic regimes.

Declaration of interest

None declared.