Professor Derek Knottenbelt

Session details

Sessions:
✓ Squamous Cell Carcinoma – what are the options?
✓ Equine melanoma – what is the problem and can we do better?
✓ Internal Neoplastic Disease of the horse – death sentence or not?
✓ SARCOID – diagnosis and treatment
✓ Diarrhoea and malabsorption syndromes
✓ HEADSHAKING – vice or pathology?
✓ UNUSUAL OR UNDER-RECOGNISED DISEASE OF THE EQUINE GUT - are we missing something?

Professor Derek Knottenbelt

Professor Derek Knottenbelt qualified from Edinburgh University in 1970 and after a period in research, spent 12 years in private practice. During this time he developed a keen interest in equine medicine and in 1985 he joined the academic world. He moved to Liverpool in 1989 and has since become Professor in Equine Internal Medicine.

Having recently retired and moved to Scotland he now consults in equine internal medicine and oncology at both Glasgow and Liverpool Universities.

He has published widely in the scientific and lay press and is the author of 10 recognised text books.

He has received international awards for his welfare work and his science and, in 2005 he was honoured with an OBE by the Queen for his services to the horse.

He is involved with national and international equine welfare and other charities. His main professional interests are in oncology, dermatology, ophthalmology and wound management.

Stream: Equine

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Squamous Cell Carcinoma – what are the options?
This paper will discuss the options for treating superficial and deep SCC with surgical intervention, chemotherapy and radiotherapy.

The eyelid, nictitans, conjunctiva and cornea are most frequently affected by SCC and here as in all other types of cutaneous carcinoma a lack of skin pigment is a predisposing factor. The penis in geldings (it is very rare in entire stallions) and the vulva and clitoris of mares are also commonly affected. Otherwise any area of non-pigmented skin can be affected.

Carcinoma also occurs in the respiratory and alimentary tracts and nasal, sinus and pharyngeal carcinoma present particular difficulties with diagnosis and treatment. Gastric carcinoma ids possibly the most aggressive form of carcinoma in the horse with a high rate of malignancy and a short course to fatality. Treatment options are related mainly to accessibility in terms of surgical tumour reduction or chemotherapy.

Surgery or chemotherapy can be successful provided that there is an anatomic feasibility but at some sites surgical tumour reduction must be accompanied by local chemotherapy using slow release agents such as mitomycin C, 5-fluorouracil and cisplatin / carboplatin. This paper will discuss the pros and cons of the treatment options including the newer methods and the use of radiation brachy and teletherapy. Early diagnosis is a fundamental requirement since most carcinomas remain local and only extend to the lymph nodes and lungs late in the course.

Equine melanoma – what is the problem and can we do better?
Treatment options for the equine melanoma have been regarded as “unnecessary” for many decades but it is time that we took a more proactive stance on the disease. An alternative controversial approach will be proposed in this lecture.

Almost all grey horses will develop melanoma to some extent at some stage in their lives if they live long enough. Many cases are diagnosed at an early stage but historically the benign neglect advice has meant that many cases become major welfare concerns and in any case are invariably cosmetically unacceptable to owners.

Given that they all start out pathologically benign and most culminate in malignancy if they wait long enough, the options for treatment should be considered. It is accepted that internal melanomas will inevitably prove to be very difficult to treat and up to now no options have been available. The policy of “ignoring” a tumour that will inevitably become malignant is viewed as medically unsound in all species and reduction in the overall number of lesions on a horse must reduce the risks of later malignancy and tumour dissemination.

Attempts to use oral cimetidine have consistently failed to live up to expectations and other surgical and chemotherapy options need to be developed. This paper will describe some of the newer treatment possibilities and discuss their application in equine oncological practice.

Internal Neoplastic Disease of the horse – death sentence or not?
The diagnosis of “internal tumours” or “cancer” in a horse is a really difficult one for owners to come to terms with. Although internal tumours are very much rarer than skin tumours, they can sometimes be managed effectively even with limited therapeutic options. All is not lost!

Internal neoplasm are far less common than external / skin tumours! Usually the diagnosis is made late in the course because the signs are usually subtle and non-specific; most serious cancers are overlooked because the associated paraneoplastic signs are attributed to other “more common” disease.

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Regular screening and careful routine examinations at vaccination time or other periodic examinations will help to detect early tumours. New forms of chemotherapy are being developed but many of the common agents used in other species have severe side effects in horses.

The recent development of intravenous doxorubicin and the concurrent use of various oral chemotherapy combinations (including vincristine, cyclophosphamide and prednisolone), mean that even some serious cases of lymphoma in particular can be managed / treated. Whilst the prognosis for these is still undoubtedly poor significant progress has been made. Surgical options are available for some internal tumours.

A good example of that is the ubiquitous pedunculated lipoma which is one of the commonest causes of surgical emergency colic in older horses. It is well established that early cancer treatment with aggressive therapy can give good results but it is also true that late diagnosis leads inevitably to far fewer options and commonly a very poor prognosis leads to immediate euthanasia.

**SARCOID – diagnosis and treatment**

The diagnosis of sarcoid is complicated by its morphological spectrum. Over 49 different treatments and sundry other homeopathic and herbal remedies have been used. This paper will discuss both recognition and treatment options.

The sarcoid is by far the commonest tumour of horses worldwide and its diagnosis is complicated by the wide spectrum of morphological types that occur. The sarcoid affects the skin only – there is no record of any internal spread but it can be highly invasive locally.

Various diagnostic tests have been suggested but it is probably dangerous to biopsy (in case of exacerbation) unless there is specific plan in place to deal with the diagnosis of sarcoid.

Over 40 different treatments have been described along with several / many quack treatments. It is also true that up to 10% of cases will resolve spontaneously and so the search continues for the immunological reason for this.

Otherwise the list of available treatments suggests that none is universally applicable and invariably successful. The limitations and benefits of each treatment method will be discussed. The only thing that is predictable about a sarcoid is that it is unpredictable.

**Diarrhoea and malabsorption syndromes**

Chronic diarrhoea (lasting more than 2 weeks) has historically carried a poor prognosis in the horse. The range of diagnostic possibilities is wider than has been appreciated and novel diagnostic and therapeutic options are being developed. These will be discussed.

Diarrhoea, whether acute or chronic and whether accompanied by concurrent clinical or haematological evidence of systemic changes, is a relatively common event in equine practice.

The commonest causes are of course related to large bowel malfunction and to parasitic disease in particular. The diagnosis of cyathostominosis is commoner in young poorly managed horses but with the advent of anthelminitic resistance and strategic worming regimes. This syndrome is however only one of the possible conditions – disease of the small gut can be masked by a normal large colon and so diarrhoea can be subtle and associated with more profound metabolic changes than has been appreciated.

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Infiltrative conditions of the small and large bowel are hard to diagnose but intestinal biopsy can be avoided at least in some cases through the concurrent use of ultrasonographical examination and rectal biopsy. Both of these however can be misleading and so no one diagnostic test should be used to definitively establish the diagnosis.

Diagnosis tic options include the full range of infections and non-infectious and neoplastic disease.

**HEADSHAKING – vice or pathology?**
The diagnosis and management of headshaking horses continues to frustrate and annoy and the disease continues to be a major welfare issue. Treatments are needed badly!

Headshaking affects around 0.2% of the horse population and is reported in all types of domesticated horse. For many years it has been regarded as vice or a result of poor harness and poor riding.

However, it has becoming increasingly clear that the disease has an organic / neurological and immunological origin. The diagnosis of HS is sometimes difficult but careful observation over different circumstances will soon differentiate the HS case from the behavioural changes. The investigation of case requires painstaking attention to detail and video recordings are helpful.

Whilst the identical signs can arise as a result of definable pathology, this is very rarely found. Most cases have an acute onset and are progressive. Many have a defined seasonality and defined trigger factors and removal of the se latter states commonly results in a temporary resolution. The therapeutic options are constrained by the frustrating lack of a full understanding of the pathology of the disease. However, new investigations have established some aspects of the pathology and its similarity to some forms of facial pain syndromes in humans is remarkable.

**UNUSUAL OR UNDER-RECOGNISED DISEASE OF THE EQUINE GUT- are we missing something?**
Very limited diagnostic options are available for intestinal disease in horses. New insights into enteric conditions affecting in particular, the large colon widened the spectrum of diagnosis of equine enteric disease.

Historically the equine gastric ulcer as totally under-recognised disorder – indeed it was thought not to exist at all as a separate entity. The advent of the gastroscope however, soon established its significance and a whole industry has been developed on the back of the diagnosis.

It is clear that there are some 'occult' diseases of the gut that must surely have a clinical significance but the in vivo diagnosis of the se is very problematic. The recent development of a fecal occult blood test (SUCCEED™, Freedom Health, Ohio) has introduced the concept of intestinal ulceration and in particular caecal and colonic ulceration.

Additionally horses suffering from “spasmodic colic” and other more vague “non-responsive” abdominal discomfort (e.g. flank biting, flank resentment and kicking and stretching out) are now suspected to be affected by other internal diseases that may be transient or may be more serious.

The difficulty of diagnosis is the fundamental block to our understanding of these disorders but once we know what they are we might have some more convincing explanations for some of the most enigmatic states of the horse.

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