

Sarcoids

Sarcoids, of which there are 6 different types, are the most common form of equine skin tumour. They are classed as low-grade fibrosarcomas (tumours). They represent about 90% of the skin tumours seen in horses worldwide and have caused heartache for horses and their owners for centuries. Although common, sarcoids vary greatly in their size and appearance, the nature in which they grow and potentially spread and also the way they respond to treatment.

It is this variability that makes sarcoids such a challenge for owners and vets to manage and treat. It is thought that greater than 80% of horses with sarcoids have more than one. Certain breeds are more likely to develop sarcoids than others with thoroughbred's accounting for a large number of the horses affected. The vast majority of cases arise between the ages of 3 and 6 years of age although growth in later years does occur. It is thought that flies may play a role in the transmission and spread of sarcoids from horse to horse.

Not all types of sarcoid are easily recognised from a cursory examination thus some may be missed. Diagnosis is sometimes very difficult and may require microscopic examination to confirm the true nature of some types.

KEY SARCOID FACTS

- Sarcoids are very common.
- Geldings appear more frequently affected.
- All equid species are susceptible, even donkeys and zebras.
- Although sarcoids are a type of tumour, they do not spread internally.
- The tumours can arise at any cutaneous (skin) site but there are some sites more prone to occurrence: chest, groin, sheath, belly and axillae, around the face (especially around the eyes and mouth) and at sites of previous wounds.
- Sarcoids have a high chance of recurring even after certain treatments.

TYPES OF SARCOID

There are 6 classifications for equine sarcoids

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|--------------|-----------------|
| 1. Occult | 4. Fibroblastic |
| 2. Verrucous | 5. Malevolent |
| 3. Nodular | 6. Mixed |



Fig 1: Well defined **occult** sarcoid on the upper muzzle of a horse.



Fig 2: **Verrucous** (Warty) sarcoid on the chest of a horse.



Fig 3: Two well defined **nodular** sarcoids on the inside thigh of a horse lying very close to underlying blood vessels.



Fig 4: **Fibroblastic** sarcoids on the prepuce of a horse with the typical appearance of infected granulation tissue.



Fig 5: Mixed sarcoids with occasional **malevolent** lesions involving both inner thighs and the prepuce extensively.



Fig 7: A traumatised nodular sarcoid on the inner thigh of a horse.

1. Occult

- Appear as roughly circular hairless areas of skin. They are often quite subtle in appearance particularly early in development.
- Very slow growing and have the potential to remain static for years before having any clinical implication.
- Occasionally mistaken for ringworm or rub marks from tack.
- Sites where they are commonly seen include: nose, side of the face, axillae and inside of the groin/thigh.
- If accidentally traumatised, these sarcoids have the potential to rapidly develop into one or more serious types of sarcoid (Fibroblastic).

2. Verrucous (Warty)

- Wart-like in their appearance and are often greyish in colour.
- Skin cracks easily and flakes of scale can often be rubbed off from the surface.
- Appear either singularly often similar to small papilloma like extensions of the skin but often coalesce into groups forming larger lesions.
- They are often not painful on palpation/manipulation but it is important to remember that any interference may stimulate these lesions to change into a more aggressive form of sarcoid. They have the potential to develop into both fibroblastic and malignant forms following inappropriate handling or treatment.
- They are commonly found around the face, groin, sheath and armpit regions of the body.

3. Nodular

- Firm and nodular in nature most commonly in the eyelid, armpit, inside thigh and groin regions.
- Can appear on their own or in groups and are often of variable size.
- Some are firmly attached to the overlying skin, in comparison to others where the skin can be moved freely over the surface.
- Unlike verrucous sarcoids, a layer of normal skin usually covers them but they still have the potential to ulcerate.

- Accidental or intentional interference via biopsy or inappropriate treatment can agitate these sarcoids and result in rapid growth and possible transformation into more dramatic forms of sarcoid particularly, fibroblastic type.
- Two forms of Nodular sarcoid are recognised based upon the level of skin involvement.

4. Fibroblastic

- Fleshy masses that grow quickly bleed easily and often have ulcerated surfaces.
- Can be found anywhere on the horse's body.
- Often take the appearance of infected granulation tissue and have the potential to develop at wound sites particularly wounds overlying limbs.
- They have the potential to develop rapidly from other types of sarcoids such as verrucous and nodular forms.

5. Malevolent

- The most aggressive type of sarcoids.
- Most commonly affects the face, inside thigh and elbow regions.
- Can rapidly spread over a wide area and very quickly grows in size.
- Extensive local or wider spread through the skin and subcutaneous tissue.
- Appear like ulcerated nodular like lesions, but tend to group into large bundles.
- Possible consequence of repeated incomplete/unsuccessful treatments but some cases may develop spontaneously.
- Treatment options are very limited if not impossible but some improvements can be gained by topical cytotoxic drugs or some systemic anti-cancer drugs.
- Rare

6. Mixed

- Describes those lesions/sarcoids that display qualities of two or more sarcoid types.
- Common for sarcoids to display mixed characteristics.
- Can develop at any site but the head, armpit and groin are seen commonly.

It is important to note that no two sarcoids are the same and they definitely do not read the textbook. Many individual tumours may contain characteristics of several different types.

DIAGNOSIS

The clinical appearance is usually characteristic. Many sarcoids display a characteristic hallow surrounding the lesion or follow the typical characteristics as described above.

Biopsy or any aggravation/interference should be avoided if a sarcoid is suspected.

Interference with sarcoids by accidental trauma, surgical biopsy or inappropriate treatment can transform some benign lesions into actively growing and more aggressive tumours.

TREATMENT OPTIONS

There is no single entirely reliable therapy for the elimination of all types of sarcoids. Not only may the treatment fail but also it may create a bigger problem than the original. Apparently there are over 40 different sarcoid treatments worldwide which clearly demonstrates that there is no single method that will be effective in each and every case.

Horses should be treated at an early stage when the lesions are small and treatment before 4 – 6 years of age appears to have a better prognosis. It is extremely important that each sarcoid is assessed carefully before any treatment is started. Inappropriate treatment can easily convert a simple sarcoid into something very nasty, very quickly.

Benign Neglect

Sometimes it might be best to simply monitor a small sarcoid that has recently developed and is not causing any interference with tack etc watching for any signs of development or growth. In a lot of cases sarcoids may remain unchanged for many years in which case neglect is the correct option. If the sarcoid changes or begins to grow, an alternative treatment strategy is needed.

Surgical Removal

Surgical removal of sarcoids is certainly a viable treatment option but must always be performed with caution. Failure to remove the sarcoid in full will predispose to recurrence of the sarcoid in a more aggressive fashion.

The decision to surgically remove a sarcoid will depend on many factors relating to the sarcoid: type, location, size, proximity to vital structures and the effect the sarcoid has on the function of the horse. Nodular sarcoids often respond well to surgical removal. In many of these cases, surgery can be carried out in the field under sedation and local anaesthetic, others may require a general anaesthetic.

Surgical Laser Removal

This allows either the bulk of the sarcoid to be removed and the base eroded in one step or the base eroded after de-bulking the main lesion/mass. Laser therapy has the added advantage of causing minimal bleeding as the tissues are burnt as the laser cuts and has been shown to have very good success rate. The disadvantages are the possibility of delayed healing. Laser surgery will invariably lead to a scar forming but the hair colour remains unchanged.



Fig 7: Laser removal of a sarcoid overlying the lateral fetlock.

MEDICAL MANAGEMENT

Blood Root Ointment

This is an adjunctive therapy for sarcoids. Extract from the rhizome of *Sanguinaria Canadensis* (blood root). The cream also contains an emulsifying agent and zinc salts.

AW4-LUDES Sarcoid Cream

This is a cream simply known as 'Liverpool sarcoid cream'. It is a topical chemotherapy treatment with the active ingredient being 5-fluorouracil. The cream can only be obtained via a veterinary prescription from the University of Liverpool. The cytotoxic nature of the cream makes it very dangerous to use and as such, the cream should only be applied by a veterinary surgeon. Using this cream, sarcoids usually look a lot worse before they get better as they become swollen and inflamed. Localised swelling around the sarcoid may also occur. In some cases the horse can find this painful.

Cryosurgery

The use of liquid nitrogen to freeze a sarcoid can be used for selective cases. This involves rapidly freezing and then slowly thawing tissues in order to kill the rapidly dividing tumour cells whilst protecting the normal cells. This form of treatment can be time consuming and is only effective on small superficial lesions such as occult sarcoids. This form of treatment can also be used on any remaining sarcoid tissue following de-bulking surgery. There is a high recurrence rate following this type of surgery so is rarely a preferred treatment choice.

Intra-lesional Cisplatin

Cisplatin is a chemotherapy drug that has been shown to have good results when injected directly into sarcoids. The drug is mixed with oil to give it slow-release properties. Some local swelling and inflammation can be seen following treatment.

BCG Injection

This method works well for nodular and fibroblastic lesions surrounding the eyes but is much less effective elsewhere. The BCG is injected directly into the sarcoid. This form of treatment should not be used for sarcoids on the limbs as these often become much worse. With this form of treatment it is important to remember that allergic reaction to the protein contained in the vaccine is a possibility.

Imiquimod (Aldara)

Imiquimod (Aldara cream) is an immune response modifier with potent antiviral and antitumour activity that is used for the treatment of skin cancer and genital warts in humans. It has recently been used for treating sarcoids in horses and has shown some good results, although the treatment period is longer compared with others.

Owners may apply this cream themselves and thus has advantages over more toxic treatments. Additionally, the cream may be used on more sensitive areas of the body such as joints/genitalia, where other therapies would be too dangerous.

Radiotherapy

Various forms of radiotherapy are available for sarcoids and other equine tumours. Look out for next month's article to find out more.

PROGNOSIS

The prognosis is dependent on the type of sarcoid present and the nature and spread of the sarcoid. With any sarcoid, interference and treatment has the potential to aggravate these tumours leading to larger, aggressive lesions. In all cases, it is important to have any sarcoid assessed carefully as the most appropriate treatment implemented will vary between each individual sarcoid.