

## **Sarcoids**

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Sarcoids are the most common skin tumor in horses, and they are also present in mule and donkey populations. Sarcoids do not discriminate based on breed or sex of horse. Young and old horses can be affected, though most cases are first noted when a horse is between 2 and 9 years old. Sometimes sarcoids are seen at the site of a previous insect bite or wound, though this is not always the case. The lesions are most commonly present on the face (especially around the eyes), neck, chest, groin, sheath, and lower legs.

A sarcoid is classified as a locally invasive fibroblastic tumor. Some aggressive varieties can have regional metastasis. There are six types of sarcoids, and one horse can have multiple types simultaneously. Occult sarcoids are flat, hairless areas of thickened skin. Verrucous sarcoids are typically lumpy cauliflower-shaped lesions that grow slowly unless traumatized. Fibroblastic sarcoids are locally invasive and may ulcerate and ooze from the surface. Nodular sarcoids are well-circumscribed, firm, round lesions that are most commonly located near the eyes, groin, and sheath. Malevolent or malignant sarcoids are the most aggressive and invade into other tissues. Finally, a “mixed” sarcoid is a lesion that has characteristics from multiple of the other five categories.

Sarcoids frequently transform from quiet, benign tumors to more aggressive, invasive tumors if they are traumatized. Biopsy is the best way to diagnose a skin lesion as a sarcoid. However, the act of taking the biopsy can cause a quiet sarcoid to demonstrate more aggressive behavior in the future. Therefore, the cost-benefit of taking the biopsy should be considered when approaching a skin lesion suspected to be a sarcoid.

There are many proposed treatments for equine sarcoids. Since sarcoids are tumors, many treatments are similar to those available for other tumor types. Surgical excision of lesions can be curative, but success rates vary widely from 20-80%. The surgeon should take 5-10 mm margins of healthy tissue around the tumor to increase the odds that all of the cancer cells are removed. Location of the sarcoid plays a large part in the decision of whether surgical removal is a good option. Surgery can be combined with other therapies that help to destroy any tumor cells left behind after surgery. Chemotherapy for sarcoids is applied to the surface of the lesion or injected into the sarcoid. A popular topical chemotherapy medication is 5-fluorouracil (5-FU) ointment. Cisplatin is another chemotherapeutic agent that can be injected into the sarcoid or formulated into beads that are implanted around the lesion. Systemic chemotherapy has been less widely employed in the treatment of equine sarcoids.

Cryotherapy is the use of freezing, usually with liquid nitrogen, to kill the tumor cells. The process also stimulates the local immune system which can be helpful. Similar to the other treatment modalities, the effectiveness varies greatly. After the cryotherapy, the sarcoid tissue dies. This causes swelling followed by sloughing of the dead tissue and the formation of a scar. One of the most effective treatments is radiation therapy. The downsides to radiation therapy are that it is only performed at select institutions because it requires special equipment and training, and it is expensive.

Immunostimulants are another category of potential sarcoid treatments. BCG (Bacillus Calmette-Guerin) is a product made from a bovine mycobacterial strain that is injected into the lesion to stimulate an immune response against the sarcoid. This product has a documented risk of anaphylaxis and therefore a steroid or NSAID is recommended as a pre-medication. Imiquimod is a topical biological response modifier that is an immunostimulant also used in humans to treat viral warts and a type of carcinoma. This medication has been somewhat promising but there is minimal data to support its use.

In summary, sarcoids vary greatly in appearance and behavior. Characteristics such as size and location determine which treatments are feasible and recommended by the examining veterinarian. There are a vast number of treatment options because none of the treatments are 100% effective for all cases, which can make sarcoids a frustrating condition to manage.

#### References:

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