

Squamous Cell Carcinoma

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Squamous cell carcinoma (SSC) is a cancer of the skin that occurs in most domesticated animals. It is the most common ocular tumor in cattle and is the second most commonly diagnosed tumor in horses. Fortunately, SSC tumors are normally slow to metastasize though on occasion they may spread to local lymph nodes or rarely to the lungs. The average age of horses diagnosed with this type of tumor is between 8 and 15 years old, however it can affect horses at any age and has even been reported in yearlings. The development of SSC is more likely in skin that is deficient of melanin and therefore it is most often found to affect breeds that have more non-pigmented skin like Appaloosas, Paints and Pintos. Horses that are chronically exposed to high levels of sunlight, like in Arizona, have a greater risk for developing SSC. Studies have also shown that the risk for developing SSC increases at higher altitudes, potentially due to the increased exposure to UV radiation. It also appears that geldings are more at risk for developing the condition than are stallions and intact mares.

Squamous cell carcinoma usually occurs in areas where skin and mucosa meet, called the mucocutaneous junction. Examples of the most commonly affected areas are the penis and sheath of stallions and geldings, eyelids including the third eyelid, and the lips, eyes, ears and nose. The tumors are usually raised, white to pink in color and have a “cobble” or “cauliflower-like” appearance. Early on these lesions may be covered with normal skin or hair but as they grow that normal layer of skin is destroyed. Often these lesions will have areas of necrosis (dead tissue) and be secondarily colonized by bacteria giving them a foul odor or ulcerated appearance.

Diagnosis of a squamous cell carcinoma can only be accomplished by submission of the mass or portion of the mass by your veterinarian to a specialist in pathology. However, your veterinarian may make an educated guess based upon the appearance and/or location of a lesion. The best course of treatment is usually surgical excision of the mass with wide margins of normal skin. If the tumor location prevents such an aggressive approach a combination of therapies can be employed including surgical excision with cryotherapy, laser ablation or chemotherapy with agents such as cisplatin or 5-fluorouracil. The use of surgical excision and another therapy such as cryonecrosis reduces the chance of recurrence of the tumor in that area, however, horses that are at risk or have had SSC in the past should be examined for tumor growth on a regular basis at the original site and at new sites.

Unfortunately, SSC can not be prevented, but there are a few things that owner's can do to reduce the risk. It is thought that washing a gelding's sheath regularly may decrease the risk of SSC in that area by reducing the build up of smegma which can act as an irritant. Frequent cleaning will also increase the likelihood of identifying lesions while they are still small. In addition, wearing a fly mask during the day can decrease the amount of direct sunlight on the eyes and eyelids and may also help reduce the risk for development of SSC tumors on these structures. Providing shade or keeping horses out

of the sun during the peak hours can also reduce exposure to UV light. The treatments for SSC lesions are most successful when the lesions are identified and treated early in the disease process. So if you own a high risk breed or live in a high risk area then be sure to check your horses often.

Resources

White SD, Evans AG. Diseases of the Skin: Tumors and Cysts. Large Animal Internal Medicine, 3rd Edition. Ed. Bradford Smith. St. Louis, MO: Mosby, 2002. 1222-1223.

Johnson, P. Dermatologic Tumors (Excluding Sarcoids). *Vet Clinic North Am [Equine Prac]* 1998; 14: 625 – 658.