Equine Skin Conditions: Part 1

For large animals, horses tend to be very sensitive and also tend to have unique veterinary problems. Their skin is no different. Horses have a relatively “thin” skin and can have a wide variety of skin problems. Skin disorders are common and tend to be highly visible to owners. While many don’t think of the skin as an organ, it is actually the largest organ in the body. It is designed to house and protect the rest of the organs and body systems. It forms a semi-permeable yet tough barrier to the outside world, protecting horses from every conceivable environmental insult such as trauma, parasites, insects, ultraviolet light and temperature extremes.

The skin is complex, containing multiple layers of cells. These layers contain sweat glands, blood vessels, nerve endings, touch receptors, pores, hair and many other structures. Astute horse owners should pay attention to their horse’s skin and coat as they would any other aspect of their horse’s appearance or conformation. Identifying problems early allows horse owners to catch problems before they have progressed and potentially become more difficult to treat.

Beyond this, the skin and coat are a window into the horse’s general health. Nutrition and general health are reflected in the coat and skin condition. A poor coat or skin disorders can be a sign of underlying diseases. Equine skin disorders can be classified in several different ways. Understanding this is the first step toward a better understanding of skin disorders, how they are diagnosed, and ultimately how they are treated and prevented.

BREED/AGE/COLOR/BODY LOCATION

Specific skin problems affect specific breeds, ages, and colors of horses. Different breeds are predisposed to

specific skin problems, either indirectly through breed characteristics like color, or directly through genetics.

Examples of breed predisposition that affects equine skin include:

- A Genetic abnormality like HERDA (Hereditary Equine Regional Dermal Asthenia), affects specific foundation lines of Quarter horses. This is a skin disorder that has become common in Western performance horses. HERDA comes from a genetic defect in a skin protein that makes the skin abnormally stretchy and easily torn. This disorder is usually detected in young horses when they are handled and started in training.
- Thoroughbred horses tend to be thin-skinned and more sensitive to insect irritation and inflammation.
- Pony breeds tend to have a higher incidence of Equine Cushing's Disease (PPID) and the classic long, poorly shedding coats associated with that condition.

Certain disorders affect horses of specific color. Horses with non-pigmented (pink) skin are predisposed to skin cancer, like squamous cell carcinoma, especially at high altitudes. Thus, breeds like appaloosas and paint horses with white hair and pink skin have a higher incidence of this problem. A high percentage of true gray horses (with black skin) develop melanoma tumors. These hard black nodules are commonly found around the anus, behind the jaw bones, under the ear, the lips, and sheath. These lesions are generally benign, meaning that they are quiet slow growing bumps that have a low likelihood of spreading throughout the body.

However, a small percentage of horses with melanoma have a malignant form that spreads throughout the body, and may cause serious disease or death. A horse owner should know about the risks of melanoma in gray horses and understand the unique nature of this problem.

Some disorders affect horses of a specific age. An example is

facial warts in young horses, which are common but usually go away on their own in a few months. Cancerous lesions tend to affect older horses.

Some disorders are seen in specific locations on the horse's body. Pastern dermatitis, also known as "greasy heel" or "scratches" is dermatitis (inflammation) that affects only the heel and pastern areas of the lower limb. This is usually caused by bacteria or fungus. Dermatophilosis, also known as "rain scald" or "rain rot" is a bacterial infection of the skin and appears as crusts with hair loss that usually occurs along the back and top-line. "Aural plaques" is a scaly wart-like condition thought to be caused by a virus, which is commonly found on the inside skin of the external ear.

THE VETERINARY DIAGNOSIS

I always stress the importance of diagnosing a problem before treating it. With equine skin conditions, however, I have found that owners are even less likely to seek out a veterinary diagnosis early on. Since skin problems are obvious to owners and results of their treatment more readily apparent, many owners treat these conditions themselves. But the results are mixed. When incorrectly treated, the problem may still resolve, persist, or worsen. It can be a bit of a gamble. Proper diagnosis involves looking at the whole horse and not just the skin lesion. It involves understanding what factors are involved in making a diagnosis, and it should involve a call to your veterinarian for guidance.

Experienced veterinarians can usually recognize the appearance and patterns of most of the skin diseases in horses and can reliably diagnose and treat them. The veterinary examination starts with a careful history. Important questions include: How long has the problem existed? Are other horses affected? What are your feeding and what is your parasite control program? Has the horse had any other health problems?

The physical examination of a horse with a skin problem starts from the big picture and then focuses down onto the specific

skin lesion. What is the breed, color, age and sex of the horse? How is the horse's general health? What is the appearance, number and location of the lesions on the horse's body? An important part of the veterinary diagnosis of skin disease is a specific and accurate description of the lesions: Are the lumps under the skin or within it? Are the lesions crusts or scales? Is there hair loss and is it associated with inflammation or not? Are these areas itchy or do they appear to hurt? How large are they? Once a careful history is taken and a thorough examination is done, a veterinarian may be ready to make a diagnosis.

If the signs are not typical of any specific disease process, a veterinarian may choose to treat the horse for what he or she thinks is most likely the problem, and may run some other diagnostic tests while initial treatment is taking effect. These tests include culture for infectious organisms like bacteria and fungus, examination under the microscope for external parasites like mites or lice, blood work to evaluate the general health of the horse, and taking a skin biopsy.

SKIN BIOPSY

Generally, veterinary diagnosis of equine skin problems usually does not involve a biopsy or other laboratory testing. Most diagnosis is made through a history and exam of the horse and the skin lesions. Only the more confusing or difficult problems require additional diagnostic tests.

A skin biopsy consists of a veterinarian surgically removing a small piece of skin within the affected area that is a full skin thickness deep. The biopsy is preserved in formaldehyde and sent to a laboratory, where a trained dermatohistopathologist – a veterinarian trained in the microscopic diagnosis of veterinary skin problems – prepares, stains and examines the specimen under a microscope. Based on this examination, the basic nature of a skin lesion may be generally diagnosed as traumatic (caused by injury), infectious (caused by bacteria, virus), immune mediated,

neoplastic (cancerous), or other.

In addition, the pathologist may find fungus or bacteria as well or may even find an even more specific reason for the problem. The veterinarian then ties in this laboratory information with the horse's overall health picture and clinical signs, and comes up with a diagnosis and treatment plan. Skin biopsy is an excellent tool to assist in the more difficult diagnosis.

Part II of this article focuses on some common equine skin disorders, their diagnosis, treatment and prevention.

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