Allergies in Horses

Down on the Farm

by HEATHER SMITH THOMAS

Allergy is a term that describes a condition in which the body reacts adversely (locally or systemically) to a certain substance. Allergic reactions in horses can be triggered by environmental allergens (dust, pollen, molds, insect bites, feed, etc.) or injections (reactions to medications or vaccinations). Reactions may appear locally in the skin with swelling, redness or itching, or may involve many body systems. If the respiratory and circulatory systems are severely affected, the condition may become life threatening unless reversed.

Richard A. Mansmann, VMD, PhD (Director of the Equine Health Program, North Carolina State University, Department of Clinical Studies) did a PhD on allergies in the horse some years back, and has been an equine practitioner ever since. "The two largest areas of allergic conditions in the horse are respiratory problems and skin problems," he says.

Diagnostics

Often a history of the horse, and clinical signs, give obvious clues as to the cause of an allergy—as when a horse develops a respiratory problem after being fed dusty hay, or breaks out in hives immediately after a new type of bedding is used in his stall. In some instances, however, the horseman and veterinarian are not sure what triggers an allergic reaction, and may decide to try skin testing or blood sampling.

"These tests are still controversial as to how effective they are in diagnosing allergic problems. The horseman is probably the person most able to help the veterinarian in diagnosing an allergy, most of the time. The history is really key, in allergic disease, to know what the horse has encountered. Looking at clinical signs can also give clues—such as the typical fly allergies, where a horse has rubbed to try to relieve the itching caused by fly bites (sweet itch)." History, seasonality, and geographic factors can often help pinpoint the cause. The owner keeping a diary may be very helpful.

"In respiratory disease, the same clues apply. The typical 'northern' type of heaves condition is generally an acquired allergy from inhaling the dust and molds in hay or bedding. If you were to use hyposensitization as a preventative measure (allergy shots), like we do in humans, you'd have the potential to make it worse. It is a different type of immunologic reaction in the horse, in those particular problems. The summer associated chronic respiratory disease (summer pasture heaves) in the Southeast, by contrast, may be more like human allergy situations—a reaction to pollens or plant material in the pasture," explains Mansmann.

"In skin disease, biopsies have some value. We can see allergic cells in the biopsy of the bump or swelling. In respiratory problems, Dr. Sarah Gardner here at NC State does pulmonary function tests in the standing horse, looking at the hyperreactivity to inhalation of histamine. This can also help in the diagnosis of an allergic COPD (Chronic Obstructive Pulmonary Disease) condition. It can also be somewhat predictive, in horses that have a hyperreactive lung—horses who have the potential to develop chronic respiratory problems." This would be a horse you would not want to keep in a barn, and a horse you would not want to buy, if you are looking for an upper level event horse or a horse for some other type of athletic career. This kind of testing would be useful as part of a prepurchase examination, he says.

"The blood testing for allergy is something I've used in some cases. After you get the results back, you usually start the horse on the hypoimmunization injections (which are given on a regular basis, to help protect the horse from future episodes). The easiest way to figure out how well it works is to see if the owner of the horse asks you to refill the prescription for the shots after they run out. A lot of times this doesn't happen. The owner, who is probably the best evaluator of the situation on a day to day basis, wasn't that impressed; the shots didn't really help that much," says Mansmann.

Some types of contact dermatitis (sensitivities to leather tack or other things that contact the skin) are oddities that you have to try to figure out. Some horses are sensitive to the ingredients in some fly sprays or shampoos, or contact with certain plants (as when walking through nettles) that do not bother other horses, for instance.

"In those odd ones, that's where the observations of the owner are quite crucial. The person doing the examination and history-taking must be very creative to think of the right questions to ask the horseman, or get the horseman involved in keeping a diary or writing things on a calendar regarding what is done with that horse and when. This can make the owner a little more aware of that horse's surroundings and what things might possibly trigger an allergic reaction. It's a lot less expensive, and in the long run probably a lot more effective than going through a lot of diagnostic tests, in these odd cases," Mansmann adds.

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Chronic Hives

Another allergy problem common in horses is chronic hives, says Mansmann. "A skin biopsy can tell you that, yes, it's an allergic reaction. The skin testing can occasionally be helpful but also has some difficulties and, if you are trying to skin test a horse who already has a lot of bumps all over the body, it's hard to figure out where to put the multiple injections for the skin test." Usually the neck is shaved and the various allergens injected intradermally in a grid pattern, and then "read" to see which ones create swelling.

"If a horse with chronic hives can be treated with as low a dose of cortisone as possible, this is often the best solution. I have also used an antihistamine type of drug (hydroxyzine) for those horses. Typical antihistamines that people take are usually pretty ineffective in horses, and so are most of the antihistamines sold for horses. Hydroxyzine works against both type one and type three allergies in man, and has a little broader spectrum against the different types of allergies," he explains.

Treating an Allergy

"I think the two key forms of treatment are avoidance therapy and corticosteroids. The first goal is figuring out what's wrong and avoiding it, such as keeping a horse out of the dusty environment, or feeding haylage or something else that has no dust. Get the horse out of the barn and keep him outside. Fly sprays can be a good preventative for horses with skin problems caused by gnats—if the horse is not sensitive to the fly spray." The owner must be very conscientious in avoiding the cause, since even just a little allergen can create significant reaction.

To deal with the swelling and inflammation caused by an allergy, corticosteroids are his drugs of choice, primarily dexamethasone. "Usually the veterinarian is called out when the horse is at its worst. That's when you need the most amount of medication, and would get the most potential side effects from the medication. If the skin problem is seasonal (as from fly bites) and begins in late April, if the owner can start the cortisone treatment the second week of that month—before the horse has a problem—you can keep the horse on a low level of dexamethasone all through the season and the problem won't get really bad. I've had horses on four milligrams of dexamethasone every other day, controlling what had been (in earlier years) significant skin allergies," he explains.

"The same thing holds true for seasonal respiratory disease, like summer pasture heaves. Start on it before it becomes advanced. Then you can use the lower levels of dexamethasone and use it for a long period of time," he says. One problem is that the first time the horse experiences this type of allergy, the owner does not know it is coming on and may not recognize it in time to head it off before it becomes severe. After that, however, the horse could be treated seasonally, starting in advance. The owner can be prepared, and proactive. It will be a lot less expensive, and a lot less problem for the horse, says Mansmann.

"Once the allergic inflammation starts, whether it's in the lung or the skin, it gains a significant hold and creates

a lot of scar tissue. Each season, it gets a little worse and the horse gets a bigger problem," he explains.

One thing that he uses occasionally in horses with respiratory problems is ivermectin. "Lungworms in the horse can look just like heaves. You'll also have some allergic cells; if you do a tracheal wash or look at the fluids, you will see these allergic cells and might assume they are due to typical heaves. Lungworm reaction stimulates allergic-type cells. The ivermectin halts the lungworms and cures the horse," he says.

"Some of these odd, chronic respiratory problems that are somewhat nonresponsive to typical treatments, and some of the skin reactions, too, for that matter, do respond to ivermectin. It is very safe, inexpensive, and may save the horse from going through a tremendous amount of testing. In my history taking, I always ask about the deworming program on the horse," adds Mansmann. If the horse has not been dewormed with ivermectin, it may be very beneficial.

Lungworms are typically a problem in donkeys; horses who have contact with donkeys are more apt to get lungworms. Even without a history of donkeys on the farm, however, lungworms sometimes show up, and the owner does not suspect this; the ivermectin may occasionally be the best treatment.

Injection Reactions

The most common vaccine reactions are local irritant reactions, as opposed to an allergic reaction. "If you split the vaccine dose and put it in different locations for an intra-muscular injection, this may reduce the reaction. You could use both sides of the neck, or the pectorals (on each side of the breastbone, at the front of the horse) or the hindquarters, putting less volume into any one injection. Or you can give the horse half the dose one day and half the next day," says Mansmann.

"Technically, the local swelling is not a true allergy nor are some penicillin injection reactions, where the horse gets very hyper or may collapse, or even die. This is usually not an allergic reaction but rather an interarterial reaction, when the procaine gets into an artery," he adds. After a short while most of these horses come right out of it, without treatment. These horses can be given penicillin again in the future (as long as it doesn't get into another artery), whereas with a true allergic reaction, the animal would always react adversely (usually with increasing severity) to any subsequent injection of that drug.

With a true hypersensitivity, the horse would have a serious reaction each time a drug or vaccine is given—affecting the circulatory and respiratory systems and leading to anaphylactic shock unless quickly reversed. The antidote for this type of reaction is swift administration of epinephrine and a cortisone, to halt the drop in blood pressure and the swelling of the airways. Often the reaction is so fast and profound there is not enough time to get the antidote into the horse.