



## Horse Care

# A Necropsy: When Is It Important?

by HEATHER SMITH THOMAS

When a horse dies, sometimes the last thing on a horseman's mind is having a necropsy (post mortem examination) performed. Yet, there are instances when a necropsy is needed. Charles Leathers, DVM, PhD (diagnostician, Washington Animal Disease Diagnostic Laboratory, Washington State University) says sometimes there is no need for a necropsy; the cause of death is obvious. But an animal who died unexpectedly or with vague clinical signs (nothing definitive) or an ailment that did not respond as expected to treatment, is frustrating to both the owner and veterinarian. Having the opportunity to look for additional information can be beneficial.

If the horse was insured, many insurance companies ask for a necropsy, and documentation of what was found. A necropsy is also important if there's a question of malpractice. If there are concerns that something inappropriate has been done to the animal, often a necropsy can answer those questions.

Sometimes it's important to determine if there is any risk to other horses in the pasture or neighborhood. If death was due to consumption of toxic plants, exposure to agricultural chemicals or malicious activities, this is important to know. Many diseases can be diagnosed before death, but in certain instances a necropsy may be necessary to pinpoint a disease problem.

There may be a wide range of things that could produce similar clinical signs. For instance, it would be important to know if neurological signs were due to a brain tumor, rabies, some other infection or a toxicity. These would have different implications for risk—to other animals or people. If the cause of death is a foreign animal disease or something new to an area, it would have regulatory implications for quarantine or field investigations to learn why this disease appeared. This was the case when West Nile Virus first appeared in the eastern U.S. and spread westward. The veterinarian might need to document the spread of a certain disease and confirm whether or not this is what killed the horse.

Horse owners should realize that not every necropsy answers all the questions. But it can be a way to identify factors, narrow the list of differential diagnoses, and give a starting point for other tests if additional analyses need to be done, says Leathers.

In some situations it may be preferable to have this done at a diagnostic laboratory, but a local veterinarian can also perform the necropsy. "We work with practicing veterinarians; it can be hard to move a large animal a long distance, and we are also concerned about freshness of the carcass. If

it's convenient to make use of these facilities, that's what state labs are for, but we consult with local veterinarians by phone or e-mail. They occasionally send us digital pictures, which can help us guide them in what to do next, or make some suggestions before they start," he says.

"Using digital pictures helps us understand what they saw. Some of our cases are accompanied by digital images of either the necropsy or a radiograph or something else that was part of that animal's clinical history, to provide more information," he adds.

Horse owners should realize there may be times when euthanasia is the first step of the necropsy. The animal may be terminally ill; chances of recovery are poor. Waiting for them to die and start to decompose may compromise some tests. No one wants to see an animal suffer. Practitioners should consult with owners and let them know what's going to happen, how it will be done and assure them it will be humane, says Leathers.

Consideration should be given about where the necropsy will be performed, since there is a carcass to dispose of. Depending on local regulations, you may not be able to bury or burn a carcass, and you may be too far away from a rendering plant for them to pick up a carcass. The owner should ask how this will be done—and how to minimize contamination of the premises during the procedure.

It is important to know what is acceptable in your area for carcass disposal. Proper burial of a cadaver will depend on what the local water table is, where wells are located, and county or municipal regulations. Consult with your veterinarian or county agent, to advise you on proper procedures.

A necropsy is done systematically. "Many times, the diagnoses can be made just by looking with the naked eye. If that doesn't answer the questions, the veterinarian should discuss with the owner what can be done next, and costs that might be incurred. Tissue samples or cultures may be needed, along with specimens for chemical analysis. There are many things that can be done, but we try to stage those logically, to yield the most information economically," he explains.

A necropsy may be required if there's concern about public or livestock health—a disease that could spread to people, wildlife or other horses, or the possibility of a new or reemerging disease. In these instances, the cost of some specialized tests might be absorbed by the facility doing the necropsy—if it is done at a university or state lab—but this will vary from state to state.

There are many valid reasons a necropsy might be performed. "Probably for every diagnosis missed by not know-

ing, 10 were missed by not looking. A veterinarian may not have had the opportunity because the owner chose not to have a necropsy done," he says. Some horse owners dwell on the animal's death and wonder—days or weeks later—about things that might have happened, but by then the opportunity has been lost to make an accurate observation as the animal has been dead for days or weeks.

Sometimes it can be comforting to know exactly what happened. Did the horse have a twisted bowel, a ruptured stomach, a ruptured blood vessel? The big frustration for horsemen or practitioners is when animals die unexpectedly and are just found dead. You don't know if it was a natural cause, foul play, poisoning or something else. Sometimes looking at the pasture and at other animals nearby, or the circumstance, can be enough to answer the question. But there are other times when a necropsy may be important.

"Our approach to necropsies is: 1) to determine the immediate cause of death; 2) to identify contributing factors—damage to tissues or organs that help explain other clinical signs—though they were not fatal; and 3) to recognize incidental things for that particular animal that might reflect on the health of the rest of the herd, for instance a certain kind of parasite. It may not have killed that particular animal, but it tells us something about parasite control or management on that farm." A necropsy can give information to improve herd health or can confirm we are doing a good

job (no parasites). A necropsy is not all bad news. Sometimes it shows that the owner is doing things right.

Another instance when a necropsy is important is abortions. The owner has a lot invested in a mare or breeding operation to raise foals, and sometimes a fetus is lost before term. "Abortion diagnosis is frustrating, in that we are looking primarily at infectious diseases, especially those we can vaccinate against. We know there are many other things that cause abortion that can't be prevented by vaccination or nutrition. Owners need to realize we don't always find a definitive answer for why an abortion occurred. But having the chance to look can help us eliminate some things," says Leathers.

An occasional sporadic abortion may occur even with the best of care and management. An infectious problem may escalate into several abortions before the first one is even examined, and this puts you behind in trying to intervene. If a fetus is found, it should be brought to the attention of your veterinarian, to determine if a prompt necropsy is justified.

"These can be frustrating, because a fetus may not be found quickly, and may be decomposed or scavenged. It may not be possible to tell which animal in a group aborted. However, the necropsy of a fetus is still a chance to investigate a problem that might have implications for the whole herd," he concludes. 🐾