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Canine Melanoma Vaccine Testing in Horses Underway



Eighty percent of grays older than 15 years of age develop melanomas.

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If you own a gray horse and [melanomas](#) aren't already on your horse health radar, they should be. [Eighty percent of grays older than 15 years of age develop this skin tumor](#)—most occurring under the tail and around the anus and genital regions—and while some horses have just a few benign lesions, others have highly invasive, performance-limiting, or even life-threatening melanomas. Few effective treatment options exist, but researchers are looking into how a canine melanoma vaccine, shown to be effective in extending life span of dogs with oral melanomas, works for treating equine melanomas anywhere on the body.

In 2009 the canine vaccine, which was intended to limit the invasiveness of oral melanoma, came on the market. Recently, the Morris Animal Foundation awarded a grant to explore use of the canine vaccine (called Oncept) in horses. Researchers are actively working to get this vaccine USDA-approved and labeled for horses. A question-and-answer session about the study was held at the 2015 American Association of Equine Practitioners Convention Dec. 5-9 in Las Vegas.

The trial to establish the vaccine's efficacy involved 15 horses with confirmed melanoma. Thirteen had a favorable result from the vaccine protocol, while two did not. In all cases, there were no adverse reactions. Manufacturers developed the targeted DNA vaccine by inserting the human gene for tyrosinase, a protein that is found on melanoma cells, into a DNA ring to stimulate an immune response. It's adjuvant-free, meaning the component often charged with triggering vaccine reactions has been omitted. The veterinarian uses a specific applicator (Vet Jet) to inject the vaccine transdermally (through the skin) into the pectoral muscle. So far, researchers have not seen any adverse effects in the trial in nonbreeding and breeding animals. In some horses, resecting (cutting away) the bulk of the tumor might help improve vaccine efficacy to control tumor growth.

Dogs undergoing the vaccine protocol receive four injections—one injection every two weeks—and then a booster every six months, indefinitely. The manufacturers recommend the same protocol for horses. Dogs receive this vaccine only after they have been diagnosed with melanoma of the oral cavity. The vaccine is not considered a cure in dogs, but it has been shown to extend their life expectancy from two to 24 weeks after diagnosis to 18 months to five years. Canine melanoma is different than most cases of equine melanoma in that it is an extremely aggressive cancer.

In horses there is not yet enough data to know how long favorable effects will last. While the researchers have yet to see full resolution of cancer in the study horses, all tumors reduced in size or stopped growing. Owners of horses with large melanomas might not see an appreciable decrease in the size of the tumor. Slow-growing melanomas seem to respond best to the vaccine and, so far, the vaccine has demonstrated good short-term efficacy. At this time, the vaccine is not yet approved in horses, and its use is considered extra-label. Owners of affected horses should have a conversation with their veterinarian that explores all available treatment options.

This vaccine is not without cost. A horse owner might expect to pay \$2,200-\$3,000 for the initial series of four injections and then a quarter of that cost for each booster. As with the canine vaccine, which was initially only sold to board-certified veterinary oncologists, small animal internists, and surgeons, the equine product, once licensed, might not be immediately available to all veterinarians.