

Can Vaccines Cause Tumors?

An expert answers questions on canine healthcare.

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Q: I have a 15-month-old female Pomeranian. At 4 months, she received her first rabies vaccine. A knot developed in the neck area where the shot was administered. The veterinarian told me to wait a few months and the knot would dissolve and disappear. Six months later the lump was still present, and Misty would get very upset when it was touched. I took her to a second veterinarian for another opinion. They informed me there had been a large incidence of reactions to the saline solution added to the vaccine. They said it commonly caused cancerous tumors in cats and had started to show up in dogs. I was told the lump should be removed immediately. The lump was surgically removed and extra tissue taken to ensure complete removal. Thank heavens the biopsy showed the lump was not cancerous. The veterinarian has told me she can no longer have the rabies vaccine. I hope you can shed some light on this.

A: This case opens up many vaccine-related issues and questions. For purposes of answering your question, I will assume the lump was vaccine-related. There is always the possibility that something else caused the lump. Vaccines are designed to stimulate an immune reaction, allowing the immune system to provide protection from disease on subsequent exposure. Some vaccines have substances added, called adjuvants, to further boost the immune system's recognition of and reaction to the components of the vaccine. While it is true these adjuvants are suspected to possibly be causing a very low incidence of vaccine-related tumors in cats, I am unaware of any reports of similar problems in dogs.

Vaccine-related lumps or granulomas are not uncommon in dogs, after vaccination beneath the skin with a variety of vaccines. These simply represent an excessive local reaction by the immune system. The lumps are more likely to occur when the injected material is errantly deposited close to or within the overlying skin. Infection at the injection site can further complicate matters. Most granulomas will resolve on their own within a few months after they form. Development of a granuloma in response to a vaccine does not necessarily mean one will develop every time that vaccine or any other vaccine is given.

An acceptable alternative would be to pre-treat with antihistamine before the next vaccination and to give the vaccine deep in the muscle. This should help alleviate concerns of more vaccine reactions while protecting your dog from rabies.