Vaccinology, Revisited

Rethinking traditional vaccination protocol

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Modern vaccine technology allows us to protect our dogs against a myriad of infectious diseases. In fact, because we've controlled disease so well, we now have the luxury of being able to look at vaccines from a different perspective. Dr. Jean Dodds, at the American Holistic Veterinary Medical Association conference in 2009, gave a presentation on the adverse effects associated with vaccines in dogs.

As Dodds points out, the clinical signs associated with vaccine reactions are varied. They can begin with fever, stiffness, sore joints, and abdominal tenderness. Dogs can also suffer from blood disorders, including immune-mediated hemolytic anemia (IMHA) and thrombocytopenia (a lack of platelets:. The latter, if severe enough, can cause bleeding tendencies.

Both liver or kidney damage can be a consequence of vaccines. In others, a dramatic increase in liver enzymes can be apparent.

Neurologic disorders, including encephalitis, have been reported. A condition called post-vaccinal polyneuropathy has been associated with the administration of vaccines containing distemper, parvovirus, and rabies, producing incoordination and weakness, as well as seizures. Dodds says certain breeds of dogs are more susceptible than others to vaccine reactions. These reactions can include seizures, high fevers, or bone pain secondary to hypertrophic osteodystrophy (HOD). Based on this hereditary tendency, genetically susceptible littermates may be at risk for the same reactions. If a dog has an adverse event, its littermates should be watched closely.

Inoculation of dogs with rabies vaccines (with or without other viruses) has been shown to induce the production of antibodies against thyroglobulin, the inactive form of thyroid hormone stored in the thyroid gland. Stimulation of the immune system in this way is thought to spur the development of hypothyroidism.

Cats don't have the number of adverse reactions that plague dogs, but they are susceptible to aggressive tumors (fibrosarcomas) that arise at the site of vaccinations and other injections. A recent Italian study found that tumors can arise in dogs at presumed injection sites.

Modified Live Vaccines

Modified live vaccines (MLV), such as the ones against distemper and parvovirus, multiply in the host, production a stronger, more sustained immune response.

Dodds suggest that MLV are so antigenic that they can overwhelm the immune system of immunocompromised dogs, and even healthy ones. A puppy who has recently moved to a new environment is at particular risk for an adverse event. Based on past recommendations, some veterinarians increase the frequency of vaccination in stressful situations such as these. Dodds suggests this makes little sense scientifically or medically.

According to Dodds, MLV have been associated with transient seizures in some dogs, especially those breeds

that are susceptible to immune-mediated disease (such as IMHA or autoimmune thyroiditis). Dogs who suffer from inhalant (atopic) allergies to pollens tend to have an exaggerated immune response to vaccines. Vaccination can temporarily increase the symptoms of allergies.

Related to this, Dodds suggests that the increased incidence of allergies or immunological diseases is linked to the introduction of MLV more than 20 years ago. Environmental factors may play a role, but the introduction of these vaccines, as well as their shedding into the environment, could be be the final factor that exceeds immunological tolerance and brings out these allergies.

Titer Testing

One way to avoid these adverse effects is to withhold vaccines, but this would leave dogs unprotected. An alternative is to do titers, but there is a lot of confusion as to how they should be used.

An antibody titer is a measure of the amount of antibody in the bloodstream against a particular virus. Dr. Ronald Schultz, an expert on vaccines, suggests that the presence of a positive titer (antibodies present in the bloodstream) means there is a sterilizing immunity and the dog should be protected from infection. Such a dog does not need revaccinating.

What happens if you vaccinate a dog with a positive titer? Schultz teels us there would be a lmited response to the vaccine because the body already has pre-existing antibodies that neutralize the vaccine. Instead, these dogs may have a reaction (a hypersensitivity) to one of the vaccine components. Dodds concurs that you should avoid vaccinating animals who are already protected.

How can we use titers in a vaccination program? Dodds recommends measuring antibodies against distemper and parvovirus annually. If the titer level falls to zero, it suggests the dog is not protected and revaccination should be considered.

Despite the evidence Dodds presents, some veterinarians still believe that vaccination is harmless and not linked to adverse effects or serious illness. At the extreme opposite end, people adamantly against vaccination fuel hysteria by providing misinformation on the negative effects of vaccines. Dodds suggests that neither of these polarized views are helpful.

Vaccination programs should not be “one size fits all.” The key is to evaluate each dog’s needs individually. Vaccination schemes should be tailored to individual dogs, based on risk. Dogs suffering from illnesses or those who have had prior adverse vaccine reactions should not be vaccinated.

Treating Vaccinosis

Vaccinosis is a diagnosis of exclusion. A dog suffers from symptoms, yet nothing can be found on testing to determine the cause. Dodds recommends two homeopathic remedies to “treat” this condition. Lyssin is used to detox for rabies vaccines, while thuja is used for all others.

Another therapy is steroids. This begins with an injection of dexamethasone, backed up by tapering doses of oral prednisone over four to six weeks.

Dogs who have had an adverse reaction to vaccines should receive no further vaccine boosters except for rabies.

Alternatives to current vaccine practices

- Measure antibody titers
- Don't overvaccinate, and avoid unnecessary vaccines
- Don't vaccinate sick dogs or those with fevers
- If a family or breed of dog is at an increased risk for adverse reactions, do minimal vaccines
- Start vaccines later (9 to 10 weeks) so that the immune system can handle the challenge
- Look for behavior or health changes after vaccine boosters that might indicate a reaction
- Look closely at littermates of puppies who have had reactions
- Don't revaccinate a dog who has had a significant reaction

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New WCA Vaccination Protocol is included in this issue.

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AKC Pet Healthcare Plan now offers titer coverage on the Wellness Plus Plan.