

Spread of a recently evolved strain of parvovirus in U.S. Dogs

Canine parvovirus type 2 (CPV2) was first detected in 1978 as the virus which causes a severe diarrheal disease in dogs, now particularly puppies. New variants or biotypes, designated CPV2a and 2b became widespread during 1979 to 1980 and 1984, respectively. At the present time the original CPV2 is no longer found in circulation in the dog population and has been replaced by the two new virus variants. The first detection of the most recent variant, CPV2c, was found in pups with bloody diarrhea in Italy in 2006. It quickly spread across Europe, Asia and was found in the Americas in 2007. This emergence of new viral strains and subsequent spread around the world is not unique to canine parvovirus, in fact it is this same sort of behavior which leads to different influenza or flu strains in people every few years. So far all of the parvoviral variants are immunologically related, meaning that the vaccine currently produced to protect against CPV2a or b also works well against CPV2c. Cross protection using any of these vaccines was shown in a study conducted by Dr. Ronald Schultz at the University of Wisconsin. This indicates that there is not a need for a new vaccine against CPV2c, the current vaccines so far cover CPV2c as well. As true for any vaccine, the ability of the vaccine to protect puppies is much more dependent on the amount of inhibition provided by maternal antibodies received while in utero and somewhat through milk in dogs. This is why the “distemper vaccine” which also contains CPV2a or b, canine hepatitis virus and canine parainfluenza virus, must be given several times from 8 weeks through 14 weeks to insure that the puppy receive the vaccine as soon as possible after the maternal antibody levels disappear from the blood stream. Because the CPV2c virus is relatively new, it is not yet known if a vaccine made from this virus variant would be able to overcome the maternal antibodies sooner, and therefore provide puppies with protection against all parvoviruses sooner. Canine infectious disease veterinary scientists are currently looking into this issue and hope to have this answer and the best possible parvovirus vaccine available to veterinarians in short measure. In the meanwhile it is always important for each puppy to receive the full puppy series and a booster vaccination at a year of age. The experience to date indicates often when a mature dog becomes sick from parvovirus, it is because this sequence of vaccination did not occur when the dog was young.