Immunisation of dogs

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As the population increased, various types of disease incidence are (both infectious and noninfectious) also increased. Majority of the infectious diseases can be prevented by adopting immunization and various health care measures.

Immunisation is a process by which protection is conferred against various diseases in humans and animals. This can be done in two ways by administering an antigen (vaccine) to an individual or animal or by administering preformed antibodies (serum) against various diseases. Induction of resistance or immunity to each disease by administering vaccine is called active immunization. This method is routinely practised in veterinary practice. Whereas transfer of readymade antibodies is called passive immunization. The immunity transferred to young ones through feeding of colostrum, immunity transferred through placenta, parentral admin istration of serum etc. are coming under this category. The immunity conferred through passive immunization will be of shorter duration and that of active immunization will be longer and durable one. As far as we are concerned in protecting our pups from various infectious diseases the active immunization is the method of choice. Immunization induces specific immunity that prevent microbial toxins. The active immunization provide stronger and longer duration of immunity. Amnestic reaction in vaccinated animal on further exposure to that antigen helps even in post-exposure therapy or even in the face of an outbreak of a disease. During a primary vaccination, longer time (2-3 weeks) taken for reaching a protective titre is the only drawback of active immunization.

What is a Vaccine?

Vaccine is nothing but a suspension of dead or living organism or detoxified metabolic product of any organism which is injected into the healthy recipient animals. With the intention of producing a state of immunity. The ideal vaccine should be cheap, stable and easily available.

Live Vaccines

Live agents in a vaccine should be modified or attenuated so that they lose their virulence, retaining their immunogenicity. They replicate in the system of recipient animals and produce long lived immunity when compared with killed vaccine. Attenuation is usually done by growing the agents in unnatural hosts, passaging in tissue cultures, by long storage or by gene manipulation. Antigenically related heterologous viruses are also used in some disease prevention. Eg. Measles vaccine for control of canine distemper. Sometimes virulent agents are administered through unnatural routes.

The live vaccines are providing long durable immunity. They will be comparatively cheap and low inoculating doses are needed for proper protection. But sometime live vaccines produce vaccine induced diseases, especially in immunosuppressed hosts. For example, "Blue eye condition" is sometime observed in dogs immunized with CAV-1 live vaccine used against infectious canine hepatitis. If not properly handled from the point of production, till it is administered the agent can get inactivated, which may lead to poor immune response and the animal contracts the infection on exposure. Cold chains should not be broken during handling. The live vaccine should be administered immediately after the reconstitution. Hot syringes should not be used for immunization, which leads to killing of the vaccine antigen. Chemical sterilization of syringes and needles should not be done. The reconstituted vaccine should not be exposed to direct sunlight which also leads to inactivation of the agent.

In canine practice, canine distemper vaccine, canine parvoviral vaccine, infectious canine hepatitis, and para influenza vaccines are containing live agents.

Killed or inactivated vaccines

The agent is killed using heat or various chemical

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