

## **Post-vaccinal reactions in German Pinschers –preliminary report**

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Since early 1980s breeders and puppy owners have noticed unexpectedly high number of postvaccinal complications within the breed. The only published information of the syndrome is the work of Hillgen and Koivisto (1996) that was based on the information collected by the breed club in Finland. The rest of the knowledge is based on the authors unpublished data of own cases and information I have collected from other veterinarians, breeders and dog-owners. In Hillgen and Koivisto's (1996) survey 33.2 % of owners reported that puppies had symptoms after distemper-vaccination in Finland. Some annual variation has been noticed. In Great Britain some breeders estimate that about 50% of all puppies show similar symptoms (Morrison D., personal communication); cases have been reported also in Sweden, Norway and Denmark (Kuisma I and Nilsson, S., personal communication). Recently I found descriptions of some American dogs having similar symptoms in German Pinscher fanciers' internet mailing list. Typical symptoms start usually 9-12 days after vaccinations and may include tiredness, fever, occasionally vomiting and eye discharge. These primary symptoms usually start 1-2 days before neurological signs. Severity of neurological signs has been variable. Some dogs have had only mild tremors, but in severe cases dogs various degrees of ataxia (=disturbances in equilibrium) and seizures have been noticed. In all known cases the symptoms developed after distemper-vaccination and usually after the first vaccination (the vaccination given when the puppy is 12 weeks old as is the routine in Finland). No correlation between the vaccine types and brands with the incidence or severity of the symptoms could be shown (Hillgen and Koivisto, 1996).

Of all known cases one dog was euthanized with suspected diagnosis of epilepsy without any treatment. No postmortem is available. Another dog died three days after the seizures begun. The most prominent postmortem finding was acute, allergic encephalomyelitis (=brain inflammation) No distemper inclusions or distemper virus could be shown. Laboratory findings from other cases have been unremarkable: the only finding has been mild leucocytosis (=elevated white blood cells) in some dogs. (Hillgen and Koivisto, 1996; Leppänen, unpublished data

The therapy has been based on the presumption of allergic background. Most cases have been treated with various doses, types and routes of administration of corticosteroids. Breeders even advise puppy-owners to give a dog small doses of oral hydrocortisone (available prescription free) as soon as they notice any symptoms. In addition to corticosteroids some dogs have got seizure medication (mostly diazepam or phenobarbital) and in some also sedatives have been administered to dogs with serious seizures. Also,

vitamin B-supplementation or antibiotics have been used as well as antiemetics for vomiting dogs. Some cases got no medication. Excluding the two above mentioned cases all dogs have recovered totally in 1-5 days and none is known to have similar symptoms after next vaccinations (Hillgen and Koivisto, 1996; Leppänen unpublished data).

Until now no exact pathogenesis and etiology of post-vaccinal complications in German Pinschers have been found; also reports of cases and effects of treatment trials base mostly on personal experience with own patients or information reached from breeders or other veterinarians who have treated the cases. It is assumed that due a very small population and high degree of inbreeding the German Pinscher breed has some type of immunological defect, which makes the dogs unusually sensitive to distemper vaccines. The presumption of familiar disorder is supported by the finding that dogs that have had symptoms themselves more commonly produce puppies with symptoms than asymptomatic animals. It is however possible that asymptomatic dogs have puppies who react after vaccination. The exact mode of heritability is however unclear. Controversially the breed is otherwise very healthy and no reports or experience of other common immunological problems could be found. Also, it is unclear, why these dogs recover so well unlike in other reported breed-specific or suspected immune-mediated encephalitis (Oliver et al., 1997, Vandeveld, 1998).

Because we do not know the exact pathogenesis the treatment was based partly on clinical findings and previous experience with these cases. In order to prevent complications caused by lengthened seizure activity the treatment and doses normally recommended for status epilepticus were used. The use of corticosteroids in these cases is based on assumption that we deal with allergic reactions. No recommendations of exact doses have been made. The cases the author has knowledge about have been treated with various types and doses; I personally prefer short-acting corticosteroids and low doses in order to prevent possible side effects from corticosteroids. It might be also possible that mild cases can recover without treatment: this is supported with the information from owners who tell that their dogs have had symptoms, but got no treatment. Also, some owners probably do not recognize mild symptoms at all. On the other hand the possibility of preventing seizures or minimizing morbidity with early corticosteroid-administration has been discussed. Unfortunately we lack any controlled studies from the effectiveness and usefulness of different treatment regimens.

#### **References:**

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