

ADENOVIROSES AMONG PIGEONS

When the well-known adenovirus in the past could only be found with young pigeons (adenovirus type I or “classical adenovirus”), in more recent years it also occurs with old pigeons (adenovirus II or “necrotising hepatitis”).

The latter form is much worse than the former because it can cause a lot of death among the old pigeons ; both diseases have become in only a few years two of the main infections among pigeons. Taking into account the enormous impact on our pigeon population and for the sake of our hobby I think it’s useful to examine what we already know about this disease. The obvious questions a pigeon fancier asks are : what are the symptoms and what can I do either to prevent or to treat the disease ,

But first of all we’re going into the cause and the course of the disease.

As stated the origin of the disease is an adenovirus ; this virus has been described with several birds ; mostly it doesn’t play an important role in pathological processes except for some diseases, two of which among pigeons. The viruses can easily be located through microscopic examination, on the basis of their typical structure ; it’s very difficult though to isolate (=to breed) them. More than 20 years ago the classical adenovirus type I was found in our regions ; since then it has also been described worldwide. The worse form, the adenovirus type II has only been found since 1992 (also for the first time in Belgium). The main difference with adenovirus type I is that also old pigeons can be infected and that the course of the disease is much worse as it causes much more death, while there’s no efficient treatment possible ! It’s a rather frequent disease occurring all through the year.

Adenovirus type I infects, as stated earlier, especially young pigeons ; the virus is very often introduced in the cote by a strange pigeon or after contact in the travel basket ; it is excreted with the manure and hence can infect the other young. Because the intestinal wall is seriously damaged, germs that normally live in the intestine get the chance to proliferate enormously ; in this way they probably damage the intestinal wall even more and can enter the blood circulation. The typical symptoms of adenovirus type I are ; the illness occurs very sudden and typical is vomiting heavily, diarrhoea, a very bad condition in general, a large part of the young pigeons are infected (there’s a very fast infection within 3 to 5 days) but mostly only a few pigeons die. Very often it lasts only 5 to 10 days. Additional E.Coli-infections will make the disease last longer ; so it’s of utmost importance to treat these additional E. Coli-infections as quickly as possible ! The recovery of the pigeons that suffered the disease can take some time, probably because of the slowly recovering liver-cells caused by the multiplication of the virus in the liver-cells. It should be taken into account when training the pigeons. Another rare syndrome of the adenovirus type I can be seen with young in the nest ; typical is that some pigeons stay behind and only few die.

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The virus with adenovirus type II is capable of causing massive liver necrosis with a characteristic course as a consequence : there are very few symptoms as the pigeons die within 2 days. The only symptom that is sometimes seen is vomiting and yellow diarrhoea. The number of dead pigeons can sometimes be very high what makes that the disease sometimes develops dramatically. Remarkable is that the pigeons that aren't infected after about 5 to 6 weeks stay healthy without any kind of symptom.

The possible diagnosis can be made based on the symptoms mentioned above after which an autopsy, if desirable, can give a definite answer through histologic investigation of the intestinal wall or liver ; in this way you can exclude other diseases such as paratyphoid, hexamethiasis, intoxication, streptococcus, acute Coli-sepsis ...

As far as the extermination is concerned : there is no efficient vaccination available. Whenever you find adenovirus type I with young pigeons, it is absolutely necessary to treat the secondary Coli-infections as fast as possible ; most of the young pigeons are carriers of this germ. Avoiding stress (transport, training, ...) is also important. For adenovirus type II the general rules are hygiene, ventilation, avoiding overpopulation ... These are essential to keep the risk of infection as low as possible.

As a conclusion you could say that there is only little information known about these viruses and the origin of these diseases. An important reason is that it's very difficult to isolate the virus. The fact that old pigeons don't become ill in case of adenovirus type I could be explained by a well-formed resistance ; summer young and late young that don't suffer the disease in their year of birth often expose typical symptoms in the year after ; you will never see this with pigeons that suffered the disease in their year of birth.

As stated in the introduction the impact of both adenoviruses on our pigeon population is enormous ; hence the development of a good vaccine would be more than welcome.

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