THE FACTS CONCERNING PARAMYXOVIRUS IN PIGEONS

Source of reference:- “Pigeon Racing Today & Tomorrow”

By the late Dr J.W.E. STAM, D.V.M, Ph.D.

How did the virus spread throughout Europe?

The disease was first described in Iraq in 1977. It reached Spain, Italy, Portugal and France via Malta. From these countries it spread further into Germany, Belgium and the Netherlands. The illness was underestimated initially, since it appears sporadically and does not spread very quickly. The first case of pigeon paramyxo was not discovered in Holland until early 1983.

How did the name originate?

The so-called pseudo chicken typhus, or Newcastle disease, is a serious and highly infectious disease of chickens which has been around for a long time. Pigeons are not affected by it under normal circumstances. However, if the pigeons are housed with chickens highly contaminated with the disease, they may become ill and exhibit the same symptoms. This only occurs under abnormal conditions, since the chicken virus cannot multiply itself very well within the pigeon.

Scientists were extremely concerned when a similar disease showed up in pigeons. In their surprise, they were hesitant to rely on the term “pseudo chicken typhus,” so the watered down family name “Paramyxo” was proposed. Fortunately, chickens did not appear to be very susceptible to this new disease which made the pigeons so ill.

How did Pigeon Paramyxo originate?

A transformation in the chicken paramyxo virus lead to pigeon paramyxo. In other words, it adapted itself to pigeons by turning into another, albeit similar, virus. All publications on pigeon paramyxo appearing before 1980 refer to it as chicken paramyxo (N.C.D.) rather than as a new virus. Mistakes are still being made in this regard. The paramyxo virus multiplies within the body cells, with which it simultaneously becomes combined. Unlike bacteria, the virus relies on living cells to multiply itself. The pigeon paramyxo virus seems to prefer cells in the nerves and intestines, whereas its counterpart in the chicken tends to settle in the cells of the respiratory tract.

How is the disease transmitted?

The paramyxo virus is very small and capable of becoming airborne. Diseased animals excrete the virus, which ends up in the environment by way of feces. The viruses then reach the eyes of other pigeons in the form of dust, or they may get into the beak or intestines via contaminated feed or water. They can also be transmitted in saliva, mucous and dust, or by clothing, shoes or hands. The mucous membranes allow viral particles access to the blood stream, by which they are distributed throughout the body. The period between exposure to the disease and the appearance of the first clinical symptoms (known as the incubation period) lies anywhere between three days and four to five weeks. In other words, the pigeons can be infected for weeks before the breeder becomes aware of the problem. Apparently healthy animals may, therefore, actually be carriers.

Clinical Picture

The pigeon paramyxo virus multiplies itself most rapidly in the cells of the intestines and nerves, resulting in their destruction. We can recognize diseased animals on the basis of pain in the kidneys or intestines, or disturbances in the nervous system. Intestinal cells regenerate quickly. If many of them have been destroyed, they will soon be replaced with healthy, new cells. The situation is different for nerve cells, however. Here the process of regeneration is a long and difficult one. The real question is whether so many nerve cells have been destroyed as to render a complete recovery unlikely, or if there is a chance for normal function to be restored after a period of time. The number of cells affected is dependent upon the number of substances in the body capable of inhibiting the ability of the virus to infiltrate those cells. In most cases the owners call and say, “My younger pigeons seem to have coccidiosis or worms.” These are situations which do not appear too often in squabs. It usually turns out that we are dealing with a case of paramyxo, if the animals have not been vaccinated against it. The birds drink large amounts of water, but it almost appears as though the fluid runs right through the bird, only to be excreted by the kidneys. The body is unable to retain water since the kidneys, intestines and cloaca are no longer working properly. Large puddles of urine lie on the floor. Sometimes the stool tahes on a green colour, since the animals are only eating a sparse amount of feed.

What are the measures to be taken during an outbreak of Paramyxo?

The biggest problem lies in the fact that, unlike the case for bacteria, there are no medications available for treating viral infections. This means that we are

more or less helpless during an outbreak. The most one can do is attempt to strengthen the animal's resistance as much as possible. This can be achieved through the administration of supplemental vitamins. Even though vaccination has little effect at the time of an outbreak, it may be tried as well. We have gained the impression that this practice reduces the severity of the symptoms. The administration of electrolytes is also recommended.

Inoculation Technique

Many problems which appear after vaccination are attributable to improper application technique. It is extremely important to select an appropriate injection site. Avoid placing the needle too deep under the skin (air sacs, crop, windpipe, neck muscles!). It is strongly advised against injecting into the muscles of the breast or legs. If the animal is inoculated too close to the head, a small knot may develop. Beyond this, the eyelids may swell to an appreciable extent.

Footnote:-

The publisher of the above mentioned book is the Continental Breeding Station of Oklahoma City. I contacted the owner, Rick Mardis, and he has kindly given me permission to reproduce anything in the book. He also says, "I hope this helps, but there is no short cut to vaccination".

Dr Stam recommends the use of the Colombovac vaccine since it is free of side effects. An aqueous solution is used in this vaccine, which contains killed chicken paramyxo virus. It also confers resistance for a year, but there are no reactions to it.

I have heard that racing pigeons from infected flocks in Melbourne have been vaccinated with a chicken vaccine but as Dr Stam states, "Vaccination of infected birds has little effect at the time of an outbreak." It would be interesting to experiment with the vaccination on birds that have not been affected and then exposed to the disease.

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