

Chronic diarrhea in pigeons

The most frequent reasons of pigeon diarrhea.

One of the most common problems that both homing and pet pigeon breeders face is known as watery droppings. Since in our laboratory practice we meet an increasing number of such cases, it is worth dealing with this topic in more details.

The reasons that must be considered in case of chronic diarrhoea are summarized. Though the article do not discuss all causal factors of watery droppings, the presentation of the following three cases will demonstrate the indispensability of laboratory diagnostics for the precise, fast, effective and at last but not least cheap treatment.

First case

A breeder turned to our laboratory with the problem that his pigeons developed watery, greenish-white droppings for a few months and two birds also showed symptoms affecting the nervous- and muscoskeletal system. These were immediately excluded from the loft. Baytril solution and NeoTesol pulvis were administered to the others during the previous months, but their condition did not improve permanently.

All the pigeons were immunized against Paramyxovirus in every year. Vermifuge (Chemisol) was administered in every two months, Vetacox-S pulvis against Coccidiums and Baytril solution as salmonella prevention was monthly administered.

Diagnostic necropsy was performed on one of the pigeons showing the most severe symptoms and the faeces collected from the flock was submitted to parasitological examination in order to detect the pathogen.

The necropsy of the emaciated bird revealed reddish intestinal mucosa, and greenish intestinal content. The liver was normal shaped, and sized with a yellowish-brown colour. There were no other macroscopic lesions found. Thus, the following organs were submitted to histopathological examination: liver, spleen, kidney, cerebrum, lungs, bone marrow, heart and small intestine, but the histopathology revealed no significant lesion in these organs.

The bacterology of the intestinal content detected the presence of *Escherichia coli* and *Staphylococcus intermedius* bacteria. Both facultatively pathogenic agents showed resistency to many kind of antibiotics.

The parasitology detected a great number of *Capillaria* and *Ascaridia* eggs.

On the basis of these findings capillariosis, ascariidosis, disbacteriosis and bacteriaemia was diagnosed.

As a treatment vermifuge, probiotics, trace elements and vitamin supplement was administered to the flock. As an effect (depending on the bird) the diarrhoea ended in 2-4 days, and the health state of the whole flock became normal in a week.

The following should be considered with reference to this case:

- 1) It is no use administering coccidiostatics or antibiotics if the pathogen is resistant.
- 2) If there is no pathogen (e.g. *Salmonella*) in the flock, then it is pointless, or even harmful to burden the flock with expensive medicines, since the unnecessarily administered antibiotics increase the development of resistancy and can lead to dysbacteriosis.
- 3) Antibiotics cannot be used as prevention, since they are completely emptied from the body a few days after their administration.
- 4) If *Salmonella* is present in the flock, persistent (8-10 days long) treatment is necessary. The treatment should be based on the findings of a drug sensitivity examination.
- 5) Neurological and musculoskeletal symptoms can be caused by other bacteria spread to other organs (e.g. cerebrum, joints) through the bloodstream.



Second case

The breeder reported about his pigeons suffering from diarrhoea keep deteriorating in the last 2 weeks, which could not reduced by administration of antibiotics (Baytril, Furazolidon, Tylozin).

The flock was immunised against Paramyxovirus in every year and they also received regular salmonella prevention.

Diagnostic necropsy was performed on the weakest pigeon in order to detect the pathogen.

The macroscopy revealed lesions in the bone marrow, the gastrointestinal system and in the liver: in the crop, in the proventriculus and in the gizzard a large amount of undigested pieces of feed was found. Reddish small intestine mucous membrane, and a normal shaped and sized, yellowish-brown liver

was seen. Histopathology was performed on the following organs: liver, spleen, kidney, cerebrum, lungs, bone marrow, heart, and small intestine. As a result, pathological fatty degeneration was observed in the liver. Since the lesion was caused by toxins, and the source of toxins is often the feed, as a next step, the sunflower feed was examined and high mold fungus concentration was detected.

On the basis of the results of these results we have diagnosed dyspepsia caused by fungal toxin and pathological fatty degeneration of the liver also caused by the toxin.

During the treatment the feeding with the infected sunflower was suspended immediately, instead pigeons were given high-quality sunflower, wheat, maize, vitamins and probiotics. After suspending the mouldy feed the faeces of the pigeon (depending on the bird) became formed in 1-2 days, and for the 5-12th day its water content returned to normal.

Breeders should consider the following with reference to this case:

- 1) Always store the feed in a dry place. (Later, the origin of the problem was revealed: The humidity was so high in the surroundings of the feed, due to the rainfall which lasted for several weeks and the leakage of the shed, that the circumstances were favourable for the proliferation of fungal toxins).
- 2) Never feed your flock with feed that is wet for a long time.
- 3) Not only bacteria or parasites can cause watery droppings, but improper keeping conditions as well.
- 4) If the reason for your pigeons' watery droppings is not a bacterial infection, then the administration of antibiotics can deteriorate their diarrhoea, which worsens their life expectancy as well as your financial conditions.



Third case

The owner brought one of his pigeons to our laboratory's consultation with the suspicion of chlamydiosis, and he reported us that the flock is strongly emaciated because of severe diarrhoea, 3 of his pigeons had died in the past 5 days and eye symptoms (a large amount of purulent smear) was observed on more members of the flock. Before the appearance of the eye symptoms, they were treated with Neomycin, but there was no sign of recovery.

The flock was immunized against infectious diseases.

Firstly, a physical examination was performed. It was followed by bacteriological examination on its faecal sample and conjunctival swab; and cytological examination on its conjunctival swab.

The pigeon was in severe condition and did not object to the examination. Besides huddling, the cardinal symptom was the purulent smear covering its eyes. The feather investigation revealed huge amount of feather lice.

Two bacteria were cultivated from the conjunctival smear: *Staphylococcus aureus* and beta-hemolytic *Escherichia coli*. The colour culture of faecal sample showed beta-hemolytic *Escherichia coli* bacteria. The suspicion of *Chlamydia* infection was excluded by cytology.

On the basis of the physical and laboratory examinations bacterial ophthalmia, conjunctivitis, enteritis and dysbacteriosis was diagnosed.

As a treatment ectoparasiticides, controlled antibiotics therapy, probiotics and vitamins were administered to the flock. The mood of the pigeons significantly improved due to the death of feather lice in the first 12 hours of treatment, then in 7-10 days the ophthalmia, conjunctivitis, and enteritis, and thus the diarrhoea was cured in the whole flock.

With reference to this case, I would like to point out to the following:

- 1, Feather lice can weaken the pigeons immune system and its general condition, thus even facultatively pathogen agents can cause a disease easily.
- 2, The more neglected the flock is, the more difficult and expensive to cure them.
- 3, Since Neomycin is not absorbed from the intestinal cavity in case of oral administration, it is ineffective in the treatment of symptoms occurring outside the intestines (e.g. eye symptoms).
- 4, If the bacteria responsible for the diarrhoea are resistant to the antibiotics that once proved to be effective, then treatment is not only ineffective but also harmful, since it does not extinguish the cause of the diarrhoea, and destroys the natural intestinal flora of the bird.

All the three cases well demonstrate that the symptoms were caused by complex causal factors. Unfortunately the pigeon's system is quite sensitive, thus the primary symptoms are soon followed by secondary infections. Therefore it must be emphasized that a complex treatment plan, which targets the real problems, is necessary for prompt and complete recovery, instead of a schematic treatment; otherwise, the bird is only symptomless. Asymptomatic carriers often develop more severe cases following an exhaustive race, which endangers the whole flock.