Infectious sinusitis of turkeys

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INFECTIOUS sinusitis—also known as swelled head, turkey roup and nasal catarrh—is a disease which is responsible for the deaths of many turkeys every year. Even where birds recover from the disease, they are liable to be stunted and unthrifty and it is generally agreed that sinusitis ranks second only to blackhead as a source of mortality and financial loss.

The exact cause of sinusitis in turkeys has not yet been determined but it is almost certainly due to a filterable virus. The disease has proved difficult to transmit artificially but is apparently rapidly contagious under field conditions. There is no evidence that the disease can be transmitted from fowls to turkeys and vice versa, but recovered turkeys can become carriers of the infective agent.

Turkeys suffering from a deficiency of Vitamin A are predisposed to sinusitis infection, but the disease is quite different from true Vitamin A deficiency. This deficiency produces symptoms of nasal discharge, watery eyes and other typical "roup" manifestations, but the condition is observed principally in poults of three to four weeks of age and clears up rapidly when green feed, fish liver oils or other supplements rich in Vitamin A are added to the diet.

Sinusitis does not respond to corrections of the diet and may still occur when the birds have an adequate intake of Vitamin A.

Pustules in the back of the mouth, gullet and crop are a common symptom of Vitamin A deficiency. This feature is not seen in sinusitis.

SYMPTOMS

Turkeys of three to three and a half months are most commonly affected. The birds become listless and obviously sick, moping about aimlessly. They will be seen to shake their heads frequently and to cough and sneeze. Some birds will be observed to make swallowing motions from time to time or will scratch at the nostrils.

Mucous discharges from the nostrils and frequently from the eyes are common, while there may be foaming of the secretions of the eyes. The birds wipe their heads frequently on the feathers of the wings and backs and these feathers become gummed and soiled with the discharges.

The infra-orbital sinus, which is the cavity situated below the eye and communicating with the nostrils and mouth, becomes distended with an accumulation of mucous matter. A soft swelling which moves when pressed, fills up the area between the eye and the beak and when pressure is applied to this swelling a mucous discharge is forced from the mouth and nostrils. The secretion is watery in the early stages but later attains the consistency of a thin paste.
The swellings may become very large and cause the eyes to close. In some birds, laboured breathing and gurgling sounds are heard and the infection may extend into the lungs and airsacs along the windpipe.

Infected birds lose interest in food and gradually waste away. Death usually occurs within 12 to 18 days but birds which survive longer than this often recover. The death rate varies in different outbreaks and may reach 80 to 100 per cent. of the birds affected. Recovery takes four to five weeks or even longer and birds have been known to show symptoms for some months. As previously stated recovered birds are usually stunted and unthrifty.

POST MORTEM APPEARANCES

Upon examination of a dead bird it will be found that the sinuses are distended with material which varies from a watery mucus to a thick sticky substance, or even to a dry cheesy deposit in a few cases. The lining of the sinus may be slightly inflamed, and in a few cases the lungs and air-sacs may also be affected.

PREVENTION

The utmost care should be taken not to introduce infected or carrier birds into a clean flock. It should be remembered that apparently healthy birds may have recovered from an attack of the disease and could still be carrying the infection. All introductions into a flock should be regarded with suspicion and such birds should be kept in isolation for a month.

Correct feeding plays an important part in preventing sinusitis. As stated previously, although this is not a preventive, an adequate intake of Vitamin A in the form of fresh green feed or fish liver oil will help to build up a resistance to sinusitis. Feeding should be adequate in quantity and well-balanced. If the birds are well fed from hatching to marketing they will have a good opportunity of withstanding infection.

Contamination of the drinking water is a factor which hastens the spread of disease as affected birds often cough and sneeze mucus on to the surface of the drinking water. All drinking vessels should therefore be kept scrupulously clean and scalded out at intervals.

TREATMENT

Before any medicaments are used, the affected sinuses must first be drained. This is best effected by means of a 16-gauge hypodermic needle which is inserted into the sinus. The syringe is then attached and the mucus is sucked out of the sinus. In cases where the exudate has become caseous (cheesy) the sinus must be carefully opened with a sharp knife and the material carefully picked out.

Several medicaments are used for irrigating the sinuses after the withdrawal of the exudate. Whichever is used, the technique is the same:

1. Two hypodermic syringes fitted with a wide bore (16-gauge) needle are used.
2. The needle is inserted into the sinus and the exudate withdrawn with one syringe.
3. The syringe is removed from the needle which is left in position. Another syringe is then fitted and 1 to 2 ccs. of medicament injected slowly into the sinus.
4. Even where only one sinus is affected, it is desirable that both should be treated.

The drugs used are:

- **Silver Nitrate**—2 ccs. of a 4 per cent. solution are used. The drug is irritant and results in a temporary severe swelling of the sinuses, which subsides in three to four days.
- **Iodine**—1 cc. of tincture of iodine, either weak (2½ per cent.) or strong (10 per cent.) solution may be used.
- **Streptomycin**—This is the drug of choice as it is both highly effective and non-irritant. It is, however, much more ex-
pensive than either silver nitrate or iodine. The sinuses are drained in the usual way and 100 mgms. of streptomycin dissolved in 2 ccs. of sterile water injected into each sinus. A prescription from a veterinarian is necessary to obtain this antibiotic.

Streptomycin is available at a retail cost of approximately 5s. 9d. per gram, which is sufficient to treat five birds.

In spite of the relatively high cost of treatment compared with silver nitrate, the drug is highly recommended on account of its high efficiency and the immediate improvement observed in the birds treated.

As there is no inflammation of the sinuses following injection, the birds will normally commence to feed immediately after treatment. This is in direct contrast to the silver nitrate treatment.

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