
THERAPEUTIC MANAGEMENT OF PEROSIS IN A WHITE SILKIE – A CASE REPORT

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ABSTRACT

A four-month-old white Silkie bird was brought to the Teaching Veterinary Clinical Complex, Pookode with a complaint of lameness and inability to bear weight along with profuse watery diarrhoea for four days. The condition was tentatively diagnosed as Perosis due to mineral deficiency by general physical examination and from clinical signs. The bird was treated with a multi-mineral feed supplement for a period of one week and advised to feed a balanced poultry diet to prevent future recurrence. The bird made an uneventful recovery after treatment.

Keywords: Silkie, Inability to bear weight, Perosis, Multi-mineral feed supplement

INTRODUCTION

Manganese (Mn) is a naturally occurring element and an essential nutrient for chicken. Chicken requires adequate levels of manganese in their diet for reproduction and development (formation of healthy cartilage and bone), egg shell

formation, wound healing, nutrient absorption and for preventing perosis. Certain minerals, if provided in excess, can limit the retention of manganese in chicken such as Calcium (Ca), Phosphorous (P) and Iron (Fe) (Wedekind *et al.*, 1991). The National Research Council (NRC) recommends a diet consisting of a minimum of sixty milligram per kilogram of manganese for growing chicks. In laying hens, manganese deficiency causes decreased egg production, reduced egg shell quality and strength, decreased hatchability and reduced fertility. A manganese deficient diet in breeding hens will cause the eggs produced for breeding purposes to hatch with abnormalities such as parrot beak, wiry down, or shortening of the long bones of the leg (Zhu *et al.*, 2015).

Perosis, also called ‘Slipped Tendon’ or ‘Chondrodystrophy’ refers to a defective leg and bone formation occurring due to nutritional deficiency that can cause swollen, twisted, broken or bowed legs. General clinical signs include impaired locomotion due to lateral and

posterior malposition of legs, slipping of the Achilles' tendon and legs may be held at an odd angle, loose droppings, brittle feathers, pale mucous membrane, comb and prominent keel bone (Gericke, 1948). Perosis is encountered in young birds whose diet is deficient in Manganese (Mn), choline and/or some B-complex vitamins. This is an anatomical deformation of leg bones in young chickens, turkey poults, pheasant poults etc. characterized by retarded growth of long bones, widening of tibio-metatarsal joint, twisting or bending of the distal end of tibia and proximal end of metatarsus and finally slipping of the gastrocnemius muscle tendon (Pierson and Hester, 1982).

CASE HISTORY AND OBSERVATIONS

A four-month-old white Silkie hen weighing 0.48 kg was reported to the Teaching Veterinary Clinical Complex, CV&AS, Pookode (Case no. O-3268) with a complaint of lameness and watery diarrhoea. The feed and water intake of the bird was normal. It was properly vaccinated but there was no history of deworming. No other musculo-skeletal abnormalities were observed upon general physical examination.

The bird was emaciated but alert with a very prominent keel bone (Breast bone/ Sternum) on general examination.

The bird was dull and depressed. On clinical examination, the bird was showing a body temperature of 107.3 °F. The conjunctival mucus membrane was pale pink in colour. It was presented with a squatting posture (Fig.1) and was unable to walk properly.

The bird when made to walk on a flat surface showed sideways slipping of the hock joint and when slightly lifted from the ground revealed gentle curling of toes. Upon placing the bird over the examination table, the bird was found to be resting on its hock. The fecal sample examination of the bird was negative.



Fig.1. Bird in squatting posture



Fig.2. Active and healthy bird after treatment

TREATMENT AND DISCUSSION

The bird was prescribed with a multi-mineral feed supplement (Ossomin suspension, TTK Healthcare) 10 drops daily per os for one week. The bird was also given supportive care by isolating it from the flock and placing it in a safe, comfortable, warm location with easy access to food and water and by limiting the stress. To prevent further recurrence the owner was advised to add mineral supplements in the diet of the bird.

The case was reviewed after one week. There was complete recovery from lameness and the bird showed normal gait and posture. There was also significant improvement in the body condition score of bird. It became active and healthy (Fig. 2).

Perosis should be differentiated from twisted leg, infectious synovitis, rickets, infectious arthritis and ruptured ligaments. Slipped tendon is an orthopaedic condition which occurs when the gastrocnemius tendon slips out of alignment from the intercondylar groove of the hock joint. Once out of alignment the contracture of the tendon perpetuates the condition and accelerates the leg deformity and causes inflammatory changes in the joint. The condition can affect one or both the legs. Usually, it is manifested as an enlargement of the hock joint followed by varying

magnitudes of twisting of the tibiotarsus and bending of the tarsometatarsus bones.

Perosis often occurs in young growing chicks (Chakrabarthi, 2006). The present case report concurs with the findings mentioned by the above author which stated that nutritional deficiencies in the diet and genetics can influence the occurrence of leg deformities. Chicks, when fed with a diet deficient in manganese, biotin, choline, niacin or folic acid have increased risk in the development of a slipped tendon. Squatting posture observed in Perosis was in agreement with the findings of Heller and Penquite (1937).

CONCLUSION

In Perosis there will be inability for the bird to walk and when treated with a multi-mineral feed supplement it showed positive response. Bones of the affected bird was weak, short and painful. Bird was reluctant to move. Most perosis affected flocks will show positive response to manganese supplementation. In order to ensure that the young flock does not develop perosis, water containing vitamin supplements are to be given to the birds. It is also important to provide the birds with starter and grower diets which are carefully formulated with adequate amounts of all the vital minerals and vitamins, especially manganese and choline.

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