

INCIDENCE OF AN UNUSUAL FOREIGN BODY IN THE GIZZARD OF A BROILER CHICKEN

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Abstract: A live broiler bird was purchased from a local meat outlet and a slaughter demonstration was conducted in a training programme at Veterinary University Training and Research Centre, Coimbatore, a constituent unit of Tamil Nadu Veterinary and Animal Sciences University. The bird weighed 1.8 kg and appeared healthy. During slaughter, after evisceration and removal of all the visceral organs, the alimentary tract was separated. When the gizzard was opened there were two pieces of stainless steel blade of 1.25 x 1.75 cm in size mixed with undigested feed ingredients. The mucous membrane of the gizzard appeared normal.

Keywords: Foreign body, Gizzard, Broiler bird, Stainless steel blade.

Introduction

The poultry industry has emerged as the fastest growing segment of the livestock sector both globally and in India. A shift in industry structure towards integrated ownership and coordination of the input, production and marketing operation involved in poultry production have also made remarkable progress in Indian poultry industry. Majority of the broilers are produced commercially from organized poultry forms throughout the country. In the integration system hatcheries supply chicks, feed and other inputs like medicines and lift the grownup birds at a desired weight and pay to the farmers. The farmers maintain the chicks up to the lifting stage. Broiler feed is supplied in two forms viz, broiler starter and broiler finisher rations. The birds are reared in sheds and there is no chance for the birds to graze outside. Foreign bodies in the crop and gizzard are common only in semi intensive or free range birds.

Case Description

A live broiler bird was purchased from a local meat outlet and a slaughter demonstration was conducted in a training programme at the Centre. The bird appeared healthy and weighed 1.8 kg and was cooped overnight and starved. The next day morning the bird was slaughtered as

per the standard procedures. After evisceration and removal of visceral organs, the alimentary tract was removed. When the gizzard was opened there were two pieces of stainless steel blade of 1.25x 1.75 cm in size mixed with undigested feed ingredients (Figure I-V). The mucous membrane of the gizzard appeared normal. This report describes the presence of an unusual foreign body viz., pieces of stainless steel blade inside the gizzard without affecting the health of the bird and also the gizzard and other organs.

Discussion

The normal function of the gizzard is to aid in the physical grinding of food materials to reduce their particle size to aid in digestion. Following wet weather or fluctuating temperatures pet birds may over-engage on minerals (sand, soil, potting mix or grit). Fluctuating weather conditions affect the metabolism of chickens and alter the pH levels within the crop, stomach, gizzard and cloaca. The resulting increased alkalinity affects the normal passage of foodstuff through the gastrointestinal tract and predisposes it to electrolyte imbalances, infectious agents and gut irritability. These metabolic changes cause the chicken to search for mineral salts in an effort to counteract electrolyte imbalance. Once a small amount of sand, grit or soil has been ingested, the bird is likely to develop a stomach ache and will scavenge for further minerals. The buildups of these materials cause a blockage in the gizzard. Egg laying hens have a heightened mineral need and if minerals are deficient during egg laying they become predisposed to a blocked gizzard. The most common foreign body obstructions are toweling, rope fibres, pebbles, wires, nails, toys, paper and plastics found within the birds play environment. Foreign bodies also occur after cold spells and in birds that have behavioural problems, such as boredom or sexual frustration. These birds like to chew on wood and tear up paper. Nutritional problems may also cause birds to chew on abnormal objects. Poor nutrition or inappropriate diets may also contribute to pica in desi chicken (Hutson L.R, 1978). Foreign body ingestion and crop impaction were reported as a minor cause of mortality among backyard chickens in California (Mete *et. al.*, 2013). Crop, proventriculus and gizzard impactions have also been described in poultry (Crespo *et. al.*, 2013). Crop impaction in chickens due to feathers, grass, plastic and metal objects have also been recorded (Christenson N.H, 1998 and Morishita *et. al.*, 1999). Foreign body ingestion occur mostly in perfectly healthy birds that are inquisitive and playful.

Conclusion

Good brooding management of chicks is necessary to encourage early adaptation to the diet and adequate consumption of feed and water. The floor should be swept after maintenance

activities to remove nails and other potentially dangerous foreign bodies. Veterinarians should be aware of the possibility of foreign bodies causing gastro-intestinal obstruction in floor – raised chickens in both backyard and commercial flock settings (Benjamin *et. al.*, 2015). The stress of confinement together with access to foreign materials in the environment seems to play an important role in the dietary ingestion. Birds should be maintained in a place which is relatively free from foreign materials and stress to avoid such kind of ingestion.

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FIGURES



FIGURE I



FIGURE II



FIGURE III



FIGURE IV



FIGURE V