Clinical Management of Pendulous Crop in a Turkey

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Abstract

A 32 months age old tom turkey with oedema at the ventral part of the neck region was presented to the clinic. Clinical examination, electrocardiographic evolution, analysis of faecal sample and whole blood was done. While palpation of the oedematous region, crop contents were expelling out through the mouth. Based on the history, clinical signs and laboratory findings it was suggestive of pendulous crop. It was treated with course of antibiotic along with emptying of the crop was done by the bird upside down. After therapy bird was free from the oedematous enlargement and it was active.

Key words: ECG, Haematology, Heredity, Pendulous Crop, Turkey Fowl

Introduction

Incidence of pendulous crop is low in chickens but, high in turkeys. The cause is not known, but a hereditary predisposition, potentially associated with hyperphagia, has been suggested in turkeys. In this condition, weakening of the crop and supporting tissues causes dropped crop so that feed and water accumulate in the organ and pass out slowly or not at all, resulting in foul smelling semi liquid accumulation affecting the crop lining. Feed utilization is impaired, and severely affected birds become thin or emaciated. Incidence may increase with erratic or excessive feed or water consumption. Present communication reports about the occurrence of pendulous crop its haematology and ECG findings in a tom turkey fowl referred to TVCC, C.V.Sc, Proddatur in Andhra Pradesh of India.
Case History and Observations
A 32 months age old turkey bird weighing 10 kilogram was presented to the Teaching Veterinary Clinical Complex, College of Veterinary Science, Proddatur suffering with gradual enlargement of ventral part of neck region since last one week. Up on physical examination it showed huge swelling at the ventral neck region (Fig.1). It had emaciation, decreased activities along with dullness with normal feed intake. Regularly it was feed with layer feed mash by providing the *ad libitum* water. Swelling was fluctuating while palpation and no pain were noticed. Whenever pressed hardly over the swelling, crop contents were expelling through the mouth. Faecal sample, blood smears and whole blood were collected for laboratory analysis.

![Figure 1](image.png): Turkey Showing the Pendulous Crop

Whole blood analysis and ECG was performed according to the previous studies (Reddy *et al.*, 2015; Reddy *et al.*, 2016). Standard Haematology revealed haemoglobin 17.7g/dl, PCV 47.1%, RBC 2.68X10^6/µL, TLC 22.45 X10^3/µL, MCV 176.0 fL, MCHC 37.5 g/dL, platelet count 36X10^3/µL and MPV 4.8 fL. Faecal sample did not revealed any parasitic ova. An electrocardiography study was done in lead II. It had P wave amplitude of 0.1 mV, duration of 0.03 sec, QRS complex with prominent R wave with duration of 0.03 sec and short amplitude of 0.3 mV, T wave amplitude of 0.12mV and duration of 0.04 sec. It had prolonged QT interval with duration of 0.16 sec, heart rate of 176/min additionally, it had ‘U’ wave also (Fig.2). Based on the history, clinical signs and examination of the crop tentatively diagnosed as pendulous crop.
Treatment and Discussion

Bird was initially treated with injections enrofloxacin (5 mg/kg body weight IM), dexamethasone (0.3 ml, IM), chlorpheniramine maleate (0.3 ml, IM) for three days. After three days of above therapy, crop was emptied by turning the bird upside down to empty the crop. For emptying of the crop 10 ml of liquid paraffin was poured through the mouth and massage the throat and crop for 5 minutes. Then bird was firmly holded and turned the bird upside down and massages the contents out through the beak for 3-10 minutes. Same procedure was repeated for 2 to 3 times for complete emptying of the crop. After emptying of crop, first two days only water was advised and after re introduction of feed was carried out. After careful observation for 5 days it was cured, activity of the bird was increased and no recurrence of oedema was noticed (Fig.3).

This problem is very similar to an impacted crop and sour crop, but in the case of a pendulous crop, the crop has been stretched by the weight of the food inside the crop and the muscles have been stretched and damaged and the crop is unable to push food down to the proventriculus. Present condition can be differentiated with sour crop which is caused by yeast and it can be recognised by a putrid smell coming from the beak and one more similar condition is impacted crop where there is a blockage in the crop and
it is doughy in nature. Present condition can be prevent by selection of the parent birds free from pendulous crop, avoid the turkeys to excessive heat, provision of cool drinking water, ample shade, high fibre content feed. The muscle in the anterior cervical region that supports the crop of the turkey is a thin, striated muscle attached to the anterior crest of the sternum. It is inserted into the skin on the anterior surface of the neck and into a tendinous attachment that passes superficially to the longus colli group of muscles and is attached on the lateral side of the neck (Rigdon et al., 1960).

It had prominent R wave with positive deflection which indicates the right ventricular hypertrophy. Short QRS complex amplitude indicative of fluid accumulation in the pleural cavity and pericardial fluid in this case. Prolonged QT interval denotes the delaying in the ventricular contractions and relaxation due to hypokalemia (Czarnecki and Good, 1980, Reddy et al., 2014). Presence of the positive ‘U’ wave might be due to repolarization of the intra ventricular conducting system or purkinje fibers system, delayed repolarization of the papillary muscles, after potentials caused by mechano electrical hypothesis mechano electrical feedback and the prolonged repolarization of the mid myocardium cells (Schimpf et al., 2008).

In other livestock including cattle, sheep, goat’s presence of U wave not reported. But, clinical importance of this wave was (U wave) is well recognized for humans. But, it may be a normal finding for quails (Szabuniewicz and McCrady, 1974). ECG findings were compared with the local reference values for the turkey birds in region and found abnormalities (Reddy et al., 2016). In the present case, abnormal wave i.e. ‘U’ wave, short QRS complex amplitude, prolonged QT interval and prominent ‘R’ was also noticed. These changes in the ECG may be due to accumulation of the more contents in the crop which had the pressure over the lungs. Due to this problem compensation was done and can see the slight right ventricular enlargement. Present haematological findings were compared with the previous reports and found leucocytosis, anaemia (Priya and Gomathy, 2008, Isidahomen et al., 2013) recorded leucocytosis due to the pneumonic changes in the lungs. Anaemia and lowered platelet count was also noticed.

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References