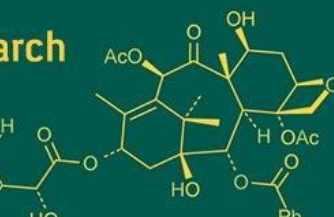
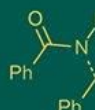
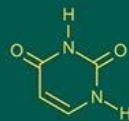
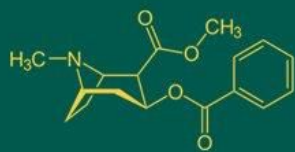


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K Merina Devi
Department of Livestock Farm
Complex, College of Veterinary
Science & Animal Husbandry,
Central Agricultural University
(CAU), Jalukie, Nagaland,
India.

T Gyaneshori Devi
Department of Livestock
Production Management,
Assistant Professor, College of
Veterinary Science & Animal
Husbandry, Central
Agricultural University (CAU),
Jalukie, Nagaland, India

Sagarika Borah
Senior Technical Officer
(Animal Science), ICAR-Krishi
Vigyan Kendra (KVK), West
Garo Hills, Meghalaya, India

Juripriya Brahma
Scientist (VCM), Zonal
Livestock Research Station,
Assam Agricultural University
(AAU), Mandira, Assam, India

Corresponding Author:
T Gyaneshori Devi
Department of Livestock
Production Management,
Assistant Professor, College of
Veterinary Science & Animal
Husbandry, Central
Agricultural University (CAU),
Jalukie, Nagaland, India

Ovarian cyst of chicken: A case report

K Merina Devi, T Gyaneshori Devi, Sagarika Borah and Juripriya Brahma

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Abstract

Ovarian cysts is a reproductive abnormalities which adversely affect the egg production and mortality of birds, leading to severe economic loss to the farm. This condition have been reported in many avian species, including chicken, waterfowl, cockatiels, canaries, budgerigars, pheasants etc. The incidence of ovarian cyst in domestic chicken is very rare, only 10-20% of aged hens may develop. A dead local chicken of 32 weeks old was presented with a history of having symptoms of in appetite, increased broodiness, abdominal distension, inconsistency in egg production followed by complete cessation, depression and ultimately died. The gross examination of the dead bird showed no external injuries, no abnormal changes and discharges. On post -mortem examination, it was revealed that the cause of death may be due to the presence of an ovarian cyst. Understanding the main causative factors, adopting good managerial practices, early detection and prompt treatment may reduce the incidence, impact and severity of an ovarian cyst.

Keywords: Local layer chicken, ovary, cyst, hormonal disorder

Introduction

A healthy layer bird normally attains sexual maturity at the age of 18-20 weeks and continue producing eggs economically till they attain 72 weeks of age. During this period, there are many reproductive abnormalities which adversely affect the egg production and mortality of birds, leading to severe economic loss to the farm. One of such reproductive anomalies is an ovarian cyst. An ovarian cyst is basically a fluid filled nearly round structure with whitish coloured wall which appears on the surface of ovary. Most ovarian cysts are harmless in nature. The incidence of ovarian cyst in domestic chicken is very rare, only 10-20% of aged hens may develop. The cystic contents may vary from clear watery to mucus in nature. Fluid aspirated from ovarian cysts is usually clear to straw-colored and often of low cellular content (Bennett, 1997; Bowles, 2002) ^[1]. There is limited literature available on ovarian cyst in poultry, however, cystic condition of right and left oviduct (Goldhaft, 1956) ^[3] and follicular cysts of ovary (Krishnan, 1967) ^[5] on poultry have been reported. In certain case, the cyst may be noticed along with a small cystic dilatation of the right oviduct. The size of the cysts may ranges from a size of a pea to 15 cm or more in diameter. When the size of the cyst is small, the problem is minimal and can be neglected, however, in large size cyst, there may be compression of the nearby abdominal organs (Riddel, 1997) ^[7].

Case Study

An owner brought a dead local chicken to the Livestock Farm Complex, College of Veterinary Sciences & Animal Husbandry, CAU, (I) Jalukie, Nagaland, with an enthusiasm to know the cause of dead of the bird. On conversation, the owner reported that the bird was 32 weeks old chicken which initially had the symptoms such as inappetence, increased broodiness, abdominal distension, inconsistency in egg production followed by complete cessation, depression and ultimately died. Thereafter, the bird was examined grossly and observed no external injuries, no abnormal changes and discharges. However, abdominal distension was clearly visible and the weight of the local bird was recorded as 2.6 kg. On post -mortem examination, it was revealed that there was a large clear fluid filled round structure present on the surface of left ovary. As per the location, and physical appearance of the structure, it was confirmed as an ovarian cyst. Without disturbing the content, the diameter and weight of the

cyst were measured as approximately 10 cm and 100 g respectively. The fluid was clear, slightly straw coloured with presence or parasitic eggs. no extrogenous.

The cause of ovarian cyst is not clear, however, there are many predisposed factors to the development of ovarian cyst which may include endocrine disorder, chronic inflammation, metabolic imbalance, anatomical abnormalities and pathological conditions of ovary etc. (Poultry DVM.com). Endocrine disorders, ovarian anatomic abnormalities, and neoplastic conditions have been associated with the development of ovarian cysts in birds (Bowles, 2002) ^[1]. The role of progesteril and estradiol is essential in the maturation of ovaries and initiation of reproductive cycle (Hebisha & Adel, 2017) ^[4]. Any disturbances or anomalies in the formation of these hormones may lead to abnormal stimulus to the pituitary gland with unusual synthesis of Follicular Stimulating Hormones (FSH) and Luteinizing hormone (LH) (Chen, *et al.*, 2017) ^[2]. Eventually, such disorder in these hormones may affect generation of further progesterol and estradiol from the ovaries resulting to failure of small follicular generation not suitable to release from ovaries (Muth-Spurlock, *et al.*, 2017) ^[6]. In due course of time, these follicles eventually become cysts and keep on increasing size and number. Ovarian cyst, in some or other ways, not only leads to decline in egg production but also causes mortality in layer bird. Adopting good managemental practices such as maintaining a healthy diet, proper hygiene, ensuring suitable stress management etc. may reduce the incidence and impact of ovarian cyst. Also, early detection and prompt treatment may prevent the severity of the case.



Fig 1: Fluid filled Ovarian cyst in desi layer chicken

Conflict of interest

The authors have no conflict of interest in this study.

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Highlights

- A dead local chicken of 32 weeks old was presented by a famer to know the cause of
- dead.
- The bird had in apppetance, increased broodiness, abdominal distension, cessation of egg
- production and dead.

- No external injuries, no abnormal changes and discharges were recorded externally. No external injuries, no abnormal changes and discharges were recorded externally.
- On post -mortem examination, there was a large clear fluid filled round structure present
- on the surface of left ovary.
- As per location, and physical appearance, the structure was confirmed as an ovarian cyst.

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