

Postmortem Survey of Female Reproductive Disorders of Poultry in and Around Salem, Tamil Nadu

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ABSTRACT

Female reproductive disorders in poultry are common conditions that affect mainly the process of egg formation, egg laying capacity and also sometimes cause mortality. This study aimed to give an overview of female reproductive disorders of poultry birds in and around Salem, Tamil Nadu. Totally, 88 hens were presented to the Department of Veterinary Pathology, Veterinary College and Research Institute, Salem, for the postmortem diagnosis during May 2023 to June 2024 with the history of unforeseen deaths, out of which 15 (17.1%) were found to have reproductive disorders. The recorded disorders were haemorrhagic vaginitis, egg-bound syndrome, oviduct impaction, egg yolk peritonitis, cystic right oviduct, congestion in the ovary, ruptured yolk, misshapen ovaries, atrophic ovaries and ovarian adeno carcinoma. Among these conditions, haemorrhagic vaginitis and egg yolk peritonitis were found to be the most prevalent reproductive disorders.

Keywords: Poultry, PM Survey, Female reproductive disorders

INTRODUCTION

Marginal and small farmers generally lack information about the birds' general health issues and their preventive measures. Reproductive abnormalities in poultry result in considerable economic loss to the farmers due to mortality and loss of egg production. Multiple factors like genetic, pharmacological, nutritional and environmental factors play a major role in

normal physiology and functions of reproductive systems and formation of egg (Roskopt and Woerpel, 2000). Poor management practices are mainly associated with reproductive disorders in poultry. This study aimed to find out the prevalence of the major female reproductive disorders of the domestic fowl in and around Salem, Tamil Nadu.

MATERIALS AND METHODS

The study was carried out over a period of 11 months (from May 2023 to June 2024). A total of 88 poultry carcasses (BV 380 and Desi chicken) of 12-26 weeks of age with the history of sudden death, belonging to Livestock Farm Complex, Veterinary College and Research Institute, Salem, local farmers and commercial poultry farms situated in and around Salem District, Tamil Nadu which were examined during postmortem at the Department of Veterinary Pathology, Veterinary College and Research Institute, Salem. Birds' necropsies were performed according to a necropsy protocol updated by Majo and Dolz (2019). The carcasses were thoroughly examined for the presence of the pathological changes in the reproductive system, viz., vagina, oviduct and ovary and the prevalence of female reproductive disorders in the poultry was recorded.

RESULTS AND DISCUSSION

In the postmortem survey, out of 88 hens necropsied, 15 cases showed female reproductive disorders, which represented 17.1% of the cases. The following abnormalities were recorded (Fig. 1 to 11),

haemorrhagic vaginitis (20%), egg bound syndrome (6.67%), oviduct impaction (6.67%), egg yolk peritonitis (20%), cystic right oviduct (6.67%), congestion in the ovary (13.33%), ruptured yolk (6.67%), misshapen ovaries (6.67%), atrophic ovaries (6.67%) and ovarian adenocarcinoma (6.67%).

In the present study, haemorrhagic vaginitis was found in three cases. The main cause for this condition was vent pecking/cannibalism. It is usually associated with vaginal bleeding, erosions, evisceration and eating of the intestine, which resulted into death of affected poultry. Poor management practices were the important predisposing factor for this condition, i.e. overcrowding, overheating, etc. (Waziri and Sa'idu, 2019).

Any defects in the muscular activity of the uterus lead to defects in the expulsion of the fully formed egg, which ultimately resulted to egg bound syndrome. In the present study, one case showed this condition. Srinivasan *et al.* (2014) observed 2.74% of this syndrome in commercial white leghorn layer chicken in the Namakkal region of India and also concluded that non-infectious factors played a major role in this condition, and it was more prevalent during the early and last stage of laying period, especially in the summer season. One case of impacted oviduct was recorded in this study. In this condition, the oviduct was occluded with masses of yolk and coagulated albumen material in the abdominal cavity. This kind of lesions also reported by Waziri and Sa'idu (2019) It might be due to a ruptured yolk.

Egg Yolk Peritonitis was diagnosed in three cases. On postmortem examination, clumps of yolk material, adherence of visceral organs and fibrin deposits in the abdominal cavity. It is also in accordance with the report of Waziri and Sa'idu (2019). This condition might be due to egg yolk, which serves as a good

medium for bacterial growth, resulting in an inflammatory response (Roskopt and Woerpel, 2000). Embryologically (during the developmental stage), the right oviduct should regress, but sometimes its partial development results in the formation of the right oviduct. Post mortem examination revealed the presence of a discrete cystic right oviduct in a large coelomic cavity, with a size of 5.5 x 2.5 cm² contained around 18 ml of coelomic fluid. This lesion was confirmed by the report of Greenacre (2015).

In this study, one case of atrophic ovary was recorded. At post-mortem examination, the ovarian follicles were found to be almost of the same size. This type of lesion was in accordance with the report of Abdu *et al.* (2002). On post-mortem examination, free-floating yolk and ruptured yolk materials were found in the abdominal cavity (one case), congestion was noticed in the ovary (one case), and misshapen ovaries were noticed (one case). An ovarian mass found in one case revealed multiple white, firm nodular growths on the ovary and the surrounding serosal surface. Metastasis was noticed all over the mesentery. This type of carcinomatosis with the same characterization was also reported in the previous studies (Crespo and Senties-Cue, 2015; Konicek *et al.*, 2020).







CONCLUSION

The information obtained in this study will help the poultry field personnel in identifying the female poultry reproductive disorders, especially in and around Salem District, which has economic significance to the farmers, as they can cause both a drop in egg production and mortality.

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<p>Fig. 1: Haemorrhagic vaginitis</p>	<p>Fig. 2: Egg-bound syndrome: Fully formed egg in shell gland</p>
	
<p>Fig. 3: Oviduct impaction with egg yolk peritonitis</p>	<p>Fig. 4: Egg yolk peritonitis with adhesions and fibrin deposits</p>
	
<p>Fig. 5: Cystic right oviduct: Cyst occupied a majority of the space within the coelomic cavity</p>	<p>Fig. 6: Congestion in the ovary</p>

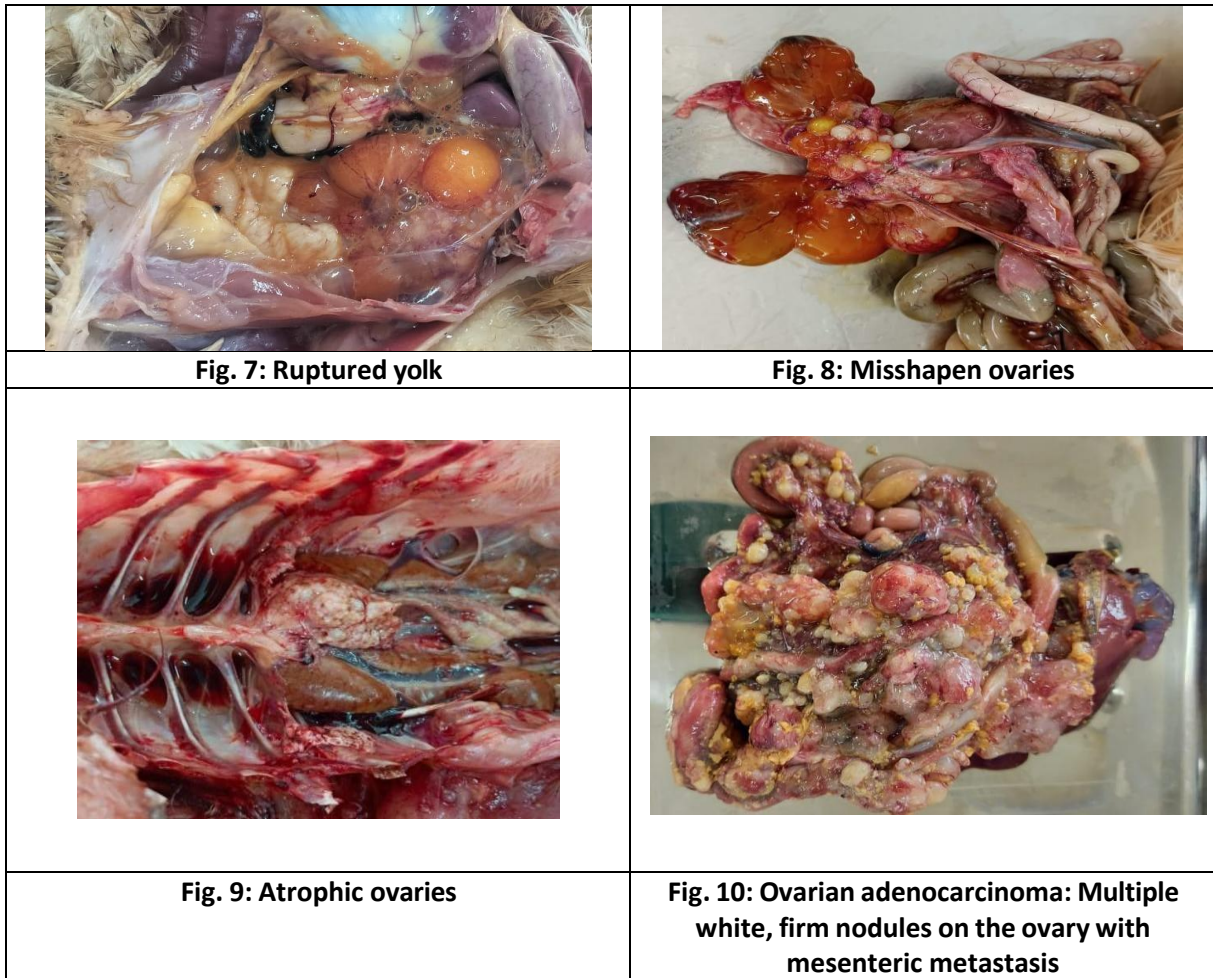


Fig. 11. Prevalence of female reproductive disorders in poultry in and around Salem District of Tamil Nadu

