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Egg retention and cloacal prolapse in a cockatiel *(Nymphicus hollandicus)*: A clinical case report

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Abstract
Egg retention refers to the condition in which an egg fails to pass through the oviduct within a specific period. Cloacal prolapse, on the other hand, is defined as the protrusion of cloacal tissues beyond the vent. Both conditions are influenced by various etiological factors. This case report presents a 2.5-year-old cockatiel (Nymphicus hollandicus) that was brought to the clinic with a complaint of tissue protruding from the vent for 24 hours and an inability to lay eggs. Physical examination revealed that the prolapsed tissue was the cloaca, and the egg was adhered to this tissue, preventing the egg-laying process. During the treatment, the cloacal region was lubricated with liquid vaseline, and slow, controlled manipulations were performed to remove the egg. Subsequently, the prolapsed tissue was cleaned and reduced using hemostatic agents. The patient was monitored during the postoperative period, and no recurrence of clinical signs was observed. This case highlights that egg retention and cloacal prolapse can be successfully managed with early intervention.

Keywords: *Cockatiel, egg, egg retention, cloacal prolapse*

1. INTRODUCTION

Egg production is a complex physiological process regulated by environmental and genetic factors that influence hormone production. In many avian species, the egg is formed 24-26 hours before laying, and ovulation typically occurs within 48 hours.[1,2] However, the failure of an egg to be laid within this period is defined as egg retention. Cloacal prolapse, on the other hand, refers to the protrusion of internal cloacal tissues through the vent.[3,4]

The etiology of egg retention and the subsequent development of cloacal prolapse involves various factors, including dysfunction of the oviduct muscles, damage to the egg canal, deficiencies in calcium, selenium, and vitamin E, inadequate nutrition, dietary imbalances, obesity, malformed eggs, systemic diseases, breed predisposition, stress, and chronic egg-laying. This condition is particularly common in young birds and first-time layers. Additionally, mechanical obstructions caused by prolapse can also lead to egg retention.[4-7]

The clinical signs of the disease vary depending on the severity and duration of the condition. The most typical symptom is swelling observed in the posterior region of the body. In advanced cases, anorexia, difficulty in defecation, tail bobbing, straining, depression, dyspnea, metabolic disorders, lameness, paralysis, and even death may occur.[4,7-9] The diagnosis of the disease can be made through anamnesis, biochemical evaluations (calcium, aspartate aminotransferase, and creatine phosphokinase levels), abdominal palpation, radiography, ultrasonography, and cloacal-oviductal endoscopy.[4,7,10]

In the treatment process, manual removal of the egg using lubricants can be attempted if the egg is located in the caudal tract. If this method fails, supportive care, medications to induce egg-laying (such as oxytocin or prostaglandin E2 gel) in cases where the uterovaginal sphincter is open, ovocentesis, salpingotomy, and salpingohysterectomy are among the treatment options to be considered. However, it should be noted that these procedures are technically challenging and risky in avian species. Untreated or delayed cases of egg retention can lead to severe clinical signs and even death.[4,7,11] The prognosis of the disease depends on the duration of the condition and the severity of the clinical signs.[4]

2. CASE REPORT

The subject of this case was a 2.5-year-old cockatiel (*Nymphicus hollandicus*) brought to the Animal Health Education, Research, and Application Hospital of Kafkas University Faculty of Veterinary Medicine. The patient was presented to our clinic by the owner with complaints of tissue protruding from the vent for 24 hours and an inability to lay eggs. Upon clinical examination, a concurrent diagnosis of egg retention and cloacal prolapse was made (Figure 1). During the treatment process, the egg was removed through slow and controlled manipulations after lubricating the cloaca with liquid vaseline. The prolapsed cloacal tissue was cleaned with antiseptic solutions and, following the removal of the egg, was reduced to its anatomical position using hemostatic (Figure 2).

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Figure 1: (a) Image of the cockatiel presented to our clinic. (b) Image showing egg retention and cloacal prolapse in the cockatiel.

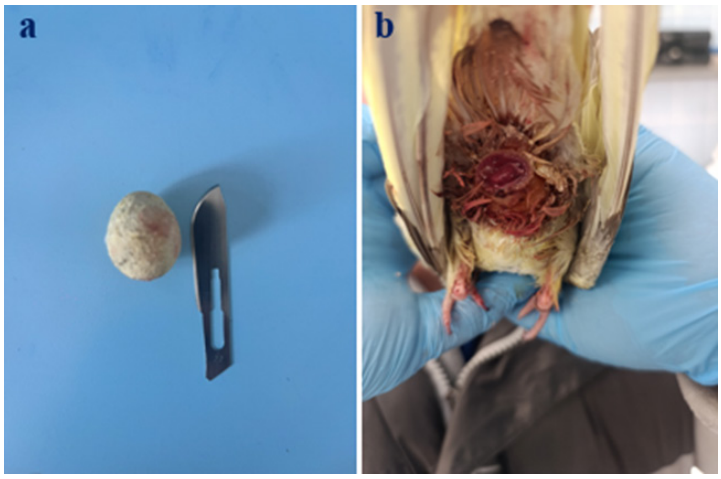

Figure 2: (a) Image of the extracted egg. (b) Post-reduction image following the reduction procedure.

3. DISCUSSION

The egg-laying process in avian species typically occurs within a broad time frame of 24-48 hours, depending on individual variability and species differences. Therefore, diagnosing egg retention is not always straightforward.[12] This condition is particularly common in first-time layers and is more prevalent in small breeds and birds that engage in continuous egg production.[13] Additionally, factors such as out-of-season breeding activities and genetic predisposition play a significant role in the etiology of the disease.[7]

The diagnosis of the condition can be made through physical examination (palpation), biochemical evaluations (calcium, aspartate aminotransferase, and creatine phosphokinase levels), radiography, ultrasonography, and cloacal-oviductal endoscopy.[4,7] In our case, the diagnosis was easily confirmed by palpation due to the clear presence of cloacal prolapse and the egg being lodged within the prolapsed tissue.

In the treatment of egg retention, supportive care approaches (fluid and electrolyte support, calcium supplementation), the application of prostaglandin E2 gel to induce egg-laying, and manual manipulations are generally successful. However, when these methods fail, surgical interventions (ovocentesis, salpingotomy, or salpingohysterectomy) may be considered.[4,7] In our case, the egg was successfully removed using manual manipulation with lubricants, and the prolapsed cloacal tissue was reduced.

Egg retention is one of the most commonly encountered obstetric disorders in avian species. Prolonged straining can lead to prolapse of the egg canal or cloaca. Therefore, potential complications must be considered, and a treatment protocol should be promptly and effectively planned following the examination of the patient.

4. CONCLUSION

In conclusion, in our case, the egg was successfully removed from the prolapsed tissue, and the prolapsed cloaca was restored to its anatomical position. This is the first recorded case of combined egg retention and cloacal prolapse in a cockatiel at our clinic. This case underscores the importance of early diagnosis and appropriate treatment approaches in achieving successful outcomes in similar cases.

Ethical approval

This study does not require approval from the Ethics Committee for Animal Experiments.

Authors contribution

Research, planning, article scanning, writing-original draft & review. All authors contributed to the article and gave final approval of the version to be submitted.

Conflict of interest

There are no conflicts of interest associated with this research publication, according to the authors.

Data availability

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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This situation does not exist.

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