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Surgical management of egg-bound syndrome in a Budgeriger

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Abstract

A one-year-old budgerigar weighing around 100 gms was presented to Veterinary University Peripheral Hospital, Madhavaram Milk Colony, Chennai with a history of unable to lay egg for the past two days. On clinical examination the bird was found to be active and alert with frequent straining of the cloaca was noticed along with inflammation. Abdomen palpation revealed presence of egg in the abdominal cavity. Caudal celiotomy was performed and retrieved one soft shelled egg from uterus. Uterus was ligated with PGA3-0 in double layer suture pattern. Post-operatively antibiotics, NSAIDs and multivitamins were administered for 5 days and bird was recovered uneventfully.

Keywords: Egg bound syndrome, celiotomy

Introduction

Egg bound syndrome is a life-threatening emergency condition in which a fully or partially developed egg fails to pass through the oviduct in a normal amount of time. As a result, it is also known as egg binding or dystocia in hens. Pet birds, broilers, and young layers are more prone to egg bound syndrome. Chronic egg laying (sudden drop in calcium level), oviduct muscle dysfunction, calcium metabolic disease, vitamin E and selenium deficiencies, malnutrition, obesity, malformed eggs, mechanical tears or damage to the oviduct, oviduct infections, systemic disease, genetic predisposition, and environmental stressors are all risk factors for egg binding. Oviduct rupture can occur as a result of dystocia or oviduct disease. The present case deals with the egg-bound syndrome its diagnosis and surgical management.

Materials and Methods

A one-year-old Budgeriger weighing 100gms was presented to Veterinary University Peripheral Hospital, Madhavaram, Chennai, Tamil Nadu with the history of not laying eggs for past two days. Clinical examination of the bird revealed wide stance, inflammation of cloaca with intermittent staining. Cloacal examination was failed to palpate the egg and abdominal palpation revealed the presence of egg in the caudal abdomen cavity. Whole blood was collected for hematology and serum biochemical analysis. Haemogram was performed by automated cell counter (3 part celenium junior, Trivitron). Serum biochemical values were measured spectrophotometrically with standard diagnostic kits (Trivitron) by using semi-automated bio chemical analyzer (Lab Mate). The case was decided to go surgical intervention since medical intervention is not feasible.

Result and Discussion

General anaesthesia was achieved through mask induction (Fig 2) with 5% isoflurane and 100% oxygen supplementation in a non-rebreathing circuit, and was maintained with 1% isoflurane. The bird was placed in dorsal recumbency, and the surgical site was prepared by plucking the feathers and scrubbing with an antiseptic solution. A caudal celiotomy incision was made. A soft shelled egg was retrieved from the uterus and complete examination of the oviduct revealed no egg. The uterus was sutured in a double layer suture pattern with PGA 3-0, followed by muscle closure with PGA1-0 and skin closure with Polyamide 3-0 in a crossmattress pattern. Post-operatively Sutures were removed on the 10th day and the bird recovered normally after receiving injections of enrofloxacin 10 mg/kg and dexamethasone 2mg/kg. The owner was advised to take multivitamins and calcium supplements to improve his health. The cause of egg binding is multifactorial in nature, with vitamin and mineral deficiencies, particularly calcium, being major contributors to the condition's development.

Egg production necessitates an increased need for energy, vitamins, and minerals; nutritional imbalance and deficiency affect the bird's overall health and lead to reproductive tract pathology. Uterine rupture can occur as a result of dystocia or oviduct disease, and in this case, the rupture is chronic. The clinical signs of egg binding and dystocia differ depending on the severity and size of the condition, as well as the presence of secondary pathological conditions. Anamnesis, clinical signs, clinical examination, and laboratory analysis are used to make a diagnosis, as are radiography, ultrasound, and laparotomy. Medical or surgical intervention is used in treatment. Egg binding caused by oviduct rupture should be surgically corrected. Inhalation anaesthesia has several advantages over injectable anaesthesia, including titration to effect, smooth and rapid induction, and rapid recovery. In birds, mask induction outperforms chamber induction. Because it has the lowest blood gas co-efficient, isoflurane is the most commonly used inhalant anaesthesia in birds. The uterus was sutured using an absorbable suture pattern. Antibiotics and analgesics should be given post-operatively to prevent secondary bacterial infection. To address nutritional deficiencies in birds, feed supplementation should be addressed.



Fig 1: Mask induction with 4% isoflurane & 100% oxygen supplementation

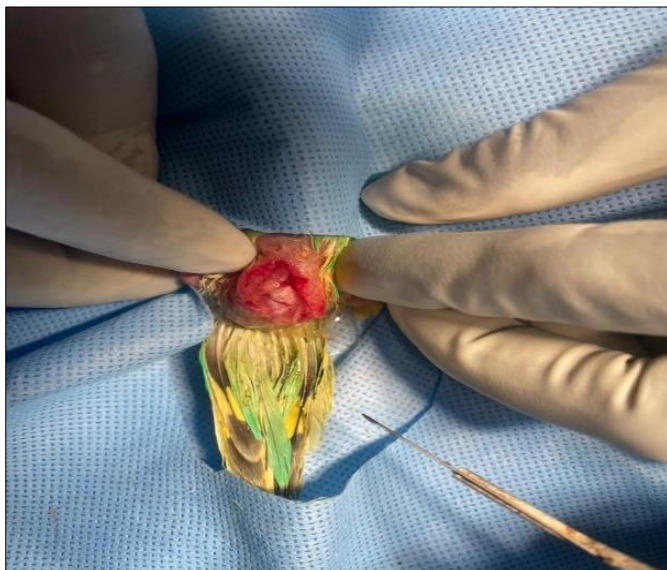


Fig 2: Caudal midventral celiotomy

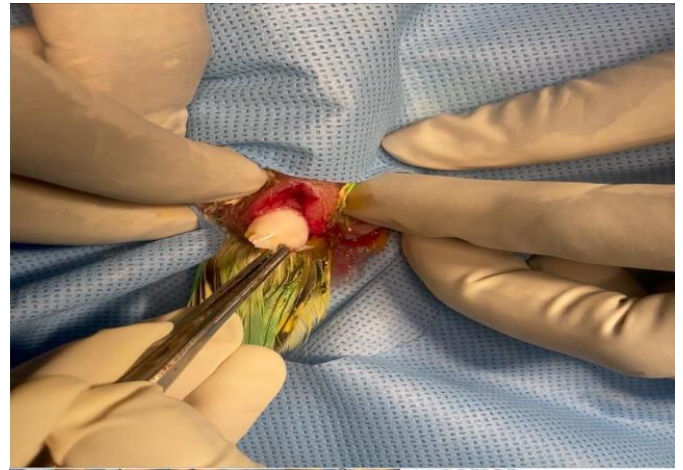


Fig 3: Retrieval of developed egg from the cloacca



Fig 4: Leathery egg removed from the cloacca

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Conclusion

This present case concludes the successful diagnosis and surgical management of eggbound syndrome.

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