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#### Indramani Nath

Professor, Department of Veterinary Surgery and Radiology, College of Veterinary Science and Animal Husbandry, Odisha University of Agriculture and Technology, Bhubaneswar, Odisha, India

#### Biswadeep Jena

Assistant Professor, Department of Veterinary Surgery and Radiology, College of Veterinary Science and Animal Husbandry, Odisha University of Agriculture and Technology, Bhubaneswar, Odisha, India

#### Dipna Jhonshon

MVSc Scholar, Department of Veterinary Surgery and Radiology, College of Veterinary Science and Animal Husbandry, Odisha University of Agriculture and Technology, Bhubaneswar, Odisha, India

#### Suchismita Mahalik

MVSc Scholar, Department of Veterinary Surgery and Radiology, College of Veterinary Science and Animal Husbandry, Odisha University of Agriculture and Technology, Bhubaneswar, Odisha, India

#### Sagar Sahoo

MVSc Scholar, Department of Veterinary Surgery and Radiology, College of Veterinary Science and Animal Husbandry, Odisha University of Agriculture and Technology, Bhubaneswar, Odisha, India

#### Corresponding Author:

#### Biswadeep Jena

Assistant Professor, Department of Veterinary Surgery and Radiology, College of Veterinary Science and Animal Husbandry, Odisha University of Agriculture and Technology, Bhubaneswar, Odisha, India

## Surgical management of prolapsed cloaca with grade IV tear and egg binding in a duck

Indramani Nath, Biswadeep Jena, Dipna Jhonshon, Suchismita Mahalik and Sagar Sahoo

#### Abstract

A duck presented with generalised debilitation, straining, dyspnoea and prolapsed, swollen cloaca secondary to dystocia along with a grade IV tear through which intestinal loops had been protruded. After repositioning of protruded organs and suturing of torn cloaca, a purse-string suture was placed to prevent recurrence. Contrary to the advice, owner had kept the suture until its next incubation period. This led to egg binding condition after 28 days, which was corrected after removal of purse-string suture.

**Keywords:** Prolapse, cloaca, grade IV tear, egg binding and duck

#### Introduction

Egg bound is a serious disorder condition that mostly affects young layers in which the egg is lodged in cloaca but not laid (Crespo *et al.*, 2003) [3]. Obstruction of oviduct or uterus by an egg is a common problem seen mainly in young female birds at the initial stage of laying period (Joy and Devia, 2014) [6]. Two of the most common clinically recognised reproductive disorders seen in avian species are egg binding and dystocia. Egg binding is defined as the failure of an egg to pass through the oviduct at a normal rate. Dystocia is defined as a condition in which the developing egg is in the caudal oviduct and is either obstructing the cloaca or has caused oviduct tissue to prolapse through the cloacal opening. Female ducks which lay abnormally large or abnormal shape eggs are at higher risk for developing this condition (Singh *et al.*, 2017) [2]. The present paper describes a case of prolapsed cloaca grade IV tear, subsequent egg bound condition and its surgical management.

#### Material and Methods

A duck was presented to the Department of Veterinary Surgery and Radiology, College of Veterinary Science and Animal Husbandry, OUAT, Bhubaneswar with a history of straining, dyspnoea and swollen cloacal prolapse (Fig. 1). Physical examination revealed a grade IV tear through which intestinal loops had been protruded. It was decided to repair the tear and to reposition the prolapsed mass under sedation.



**Fig. 1:** Showing duck showing prolapsed, swollen cloaca secondary to dystocia

The duck was sedated with intranasal midazolam @6mg/Kg bodyweight. Then the prolapsed mass was lavaged with dilute povidone iodine solution to remove the dirt and debris.

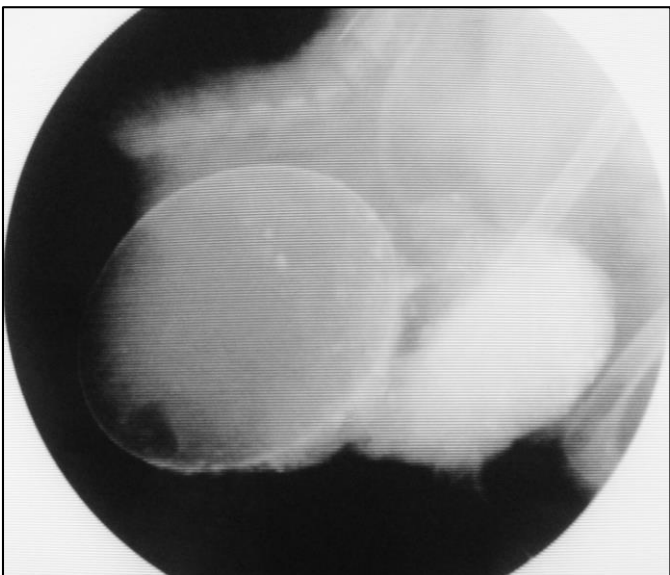
Ice cubes and 50% dextrose was applied topically to alleviate the swelling due to oedema. The cloacal tear was sutured with chromic catgut no. 3-0 in an inverted suture pattern (Fig. 2).



**Fig 2:** Showing cloacal tear was sutured with chromic catgut size 3-0 in an inverted suture pattern

Then the prolapsed mass was manually reduced by applying digital pressure. After reduction of prolapsed mass, a temporary purse string suture around the muco-cutaneous junction of cloaca was placed to prevent recurrence, leaving an aperture for prospective micturition and defecation. The owner was advised to remove the temporary purse string suture on 2<sup>nd</sup> day.

On contrary to the advice the owner kept the suture throughout the next incubation period. So, the duck was again presented after 28 days with signs of hunched back, depression and tenesmus. A firm palpable mass was felt on physical examination. The radiographic examination confirmed it to be egg binding condition (Fig. 3).



**Fig. 3:** Showing one calcified egg at the cloacal region under C-Arm IITV

Then the sutures were removed under manual restraint. The egg was then removed with manual digital pressure applied to caudal abdomen and vent region (Fig. 4).



**Fig 4:** Showing bound egg removed with digital pressure applied to caudal abdomen and vent region

Post operatively a course of antibiotic (Amoxycillin and Clavulanic Acid @125mg/Kg bodyweight) and Anti-inflammatory drug (Meloxicam @ 0.2mg/Kg bodyweight) was administered for 5days and 3 days respectively Calcium gluconate injection (1ml) was administered intra-muscularly. The case was successfully managed and showed uneventful recovery.

Cloacal prolapse is a condition in which lower part of laying birds' urogenital tract turns inside out and protrudes through the vent. Suspected cases of egg bound include lack of calcium or other nutritional issues, overweight birds, unusually large or oddly shaped egg, oviduct infection, premature egg laying, lack of nesting boxes/safe place to lay the egg etc. Some researchers (Joyner, 1994 and Harrison, 1986) [7, 4] also reported egg bound caused by oviductal muscle malfunction in Calcium, Selenium, Vitamin E deficiencies, nutritional deficiencies, obesity and stress. Crespo *et al.* (2003) [3] also recorded that young birds laying extra-large eggs were prone to egg bound which happened in the present case. Egg binding without torsion or displacement of oviduct was described by Hasholt (1966) [5]. Samour (2008) [8] opined that caesarian as an ideal treatment if both egg and hen were conservative and not responding to medical treatment. It is therefore advised to provide adequate nutritional supplement and hygienic management of young layers to prevent such condition.

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