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## Crop impaction and its surgical management in a domestic fowl

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### Abstract

An Aseel breed of domestic fowl was presented with a history of swelling at the lower neck with sudden difficulty in breathing since the last 2 hours. Based on physical examination, soft masses 2-3 in number obstructed the crop and caused crop impaction. Under local infiltration anaesthetic procedure. Ingluviotomy was performed and 3 pieces of undigested meat along with undigested grain materials were removed. Bird recovered completely and post-operative care procedures were followed until complete recovery.

**Keywords:** Domestic fowl, foreign body, crop impaction and ingluviotomy

### Introduction

Gastrointestinal foreign bodies are common in animals<sup>[1]</sup>. It has been reported in a number of avian species such as companion birds, zoo birds, poultry and ostriches, and birds in the wild as well as in domestic birds<sup>[2]</sup>. In birds, the oesophagus lies to the right of the trachea and just below the skin. Avian oesophagus is highly distensible due to the longitudinal folds that enable them to ingest large-sized food materials<sup>[3, 4]</sup>. Avian oesophagus is divided into a cervical and a thoracic part. The crop is the expanded ventral diverticulum of the cervical oesophagus in chicken. The wall of the oesophagus in birds has four layers, namely mucosa, submucosa, muscular tunic, and serosa<sup>[5]</sup>. Crop impaction in domestic fowl has been rarely reported. This case report discusses the removal of unusually large-sized undigested meat pieces as a foreign body that was removed by ingluviotomy from the distal part of the cervical oesophagus in a domestic fowl.

### Case history and Observation

A female 6 months old of an Aseel breed of domestic fowl weighing about 1.2 kg was referred to the Emergency Critical Care Unit, Resident Veterinary Services Section, Madras Veterinary College, Chennai -7 with a history of swelling at the lower neck and in appetite with sudden difficulty in breathing since the last 2 hours (Fig.1). Physical examination revealed the presence of an unusual soft mass at the base of the neck. The swelling was coarse and had crepitation. Based on history and physical examination, this case was diagnosed as crop impaction.

### Treatment and Discussion

The base of the neck was prepared aseptically for surgery. Lignocaine solution of 1:3 dilution was prepared with normal saline and 1.0 ml was infiltrated along the surgical line of the incision (Fig. 2). Ingluviotomy under local infiltration analgesia using diluted 2% solution of lignocaine (Lox – 2%, Neon Laboratories Limited, Andheri East, Mumbai, India) was performed. It was taken care that the total dose should not exceed 4 mg/kg in birds as documented by Hawkins (2006). The healthy part of the crop was identified over which an incision was made to remove the obstructed material from the crop (Fig.3). Stay sutures were placed cranial and caudal to the incision to prevent the spillage of the secretions back into the chest. A large quantity of undigested food grains and 3 pieces of undigested meat pieces were removed (Fig.4). After the removal of the impacted materials, the proventriculus was emptied. The site was lavaged with lukewarm sterile normal saline and excess fluid was removed by suction<sup>[7]</sup>. The Ingluviotomy site was closed in two layers of simple interrupted followed by continuous pattern using polyglactin 910 no: 3-0 (Truglyde, Healthium Med tech Private

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Limited, Bangalore, India) to prevent any leakage (Fig.5). Leakage was checked by giving water orally after the closure. The skin was closed in a simple interrupted pattern using 3-0 polyamide (Trulon, Healthium Medtech Private Limited, Bangalore, India). Liquid diet was advised for 5 days. Antibiotics [Enrofloxacin (Meriquin, Vetoquinol India Animal Health Pvt Ltd., Maharashtra, India) at 10 mg/kg, SID for 7 days] and analgesics [Tramadol (Anatrum, Hiral Labs Limited, Uttarakhand, India) at 10 mg/kg BID for 3 days] in water was orally administered. There were no complications during the follow-up period of 3 weeks and the fowl recovered completely after 4 weeks.



**Fig 1:** Impacted crop (arrow)



**Fig 2:** Infiltrating local anaesthetic drug



**Fig 3:** Surgical incision on crop



**Fig 4:** Removal of undigested feed grains and meat pieces (arrow)



**Fig 5:** Suture the incision site

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