



E-ISSN: 2320-7078

P-ISSN: 2349-6800

www.entomoljournal.com

JEZS 2021; 9(5): 326-328

© 2021 JEZS

Received: 25-07-2021

Accepted: 27-08-2021

R Thangadurai

Assistant Professor,
Krishi Vigyan Kendra,
Dharmapuri, Tamil Nadu
Agricultural University (TNAU),
Tamil Nadu, India

K Dhasarathan

Veterinary Assistant Surgeon,
Veterinary Dispensary, Indur,
Dharmapuri, Tamil Nadu, India

M Vijayakumar

(1) Assistant Professor,
Department of Veterinary
surgery and Radiology, VCRI,
Tirunelveli, Tamil Nadu
Veterinary and Animal Sciences
University (TANUVAS), Tamil
Nadu, India
(2) Programme Coordinator,
Krishi Vigyan Kendra,
Dharmapuri, Tamil Nadu
Agricultural University (TNAU),
Tamil Nadu, India

Corresponding Author:**R Thangadurai**

Assistant Professor,
Krishi Vigyan Kendra,
Dharmapuri, Tamil Nadu
Agricultural University (TNAU),
Tamil Nadu, India

Surgical removal of esophageal fish hook foreign body in a fancy Aseel chicken

R Thangadurai, K Dhasarathan and M Vijayakumar

DOI: <https://doi.org/10.22271/j.ento.2021.v9.i5d.8848>

Abstract

One year old fancy Aseel female chicken was presented with a history of fish hook ingestion accidentally in a confusion of meat piece. The bird ingested one fish hook was stucked at oesophagus before reach the crop. Based on the physical examination eye of the fish hook was felt at the caudal part of oesophagus and nylon protruding from its oral cavity. Under local anaesthetic procedure esophatomy was performed and undigested meat piece along with fish hook were removed. Bird recovered completely and post-operative care procedure was followed until complete recovery.

Keywords: Aseel, fishhook, foreign body and esophagus

Introduction

Removal of esophageal and gastric foreign bodies in dogs and cats has been reported in numerous publications. Bone and plastic objects as gastric foreign bodies were the most common types of foreign bodies in dogs and cats (Deroy *et al.*, 2015) [1]. Aseel is a bird of domestic fowl (*Gallus domesticus*) popular as a game bird and is of a high pet value among the local folks. The bird is used for cock fighting. The Aseel esophagus is approximately 35 cm long, covering 17% of the length of the entire digestive tract. It secretes mucus which lubricates the esophagus. The crop is not a stomach, it is simply a small sac used to store and moisten feed (some wild birds feed their young by regurgitating food stored in their crop). Food is taken in with the beak, which is the perfect tool for pecking feed in crumble or pellet form, small grains, grass or insects. Chickens are omnivores – meaning that, in addition to a commercial feed, they can eat meat (grubs, worms, the occasional mouse) and vegetation (grass, weeds and other plants). A small bit of saliva and digestive enzymes are added as the food moves from the mouth into the esophagus. From the esophagus food moves to the crop, an expandable storage compartment located at the base of the chicken's neck, where it can remain for up to 12 hours. The food trickles from the crop into the bird's stomach (proventriculus or gizzard) where digestive enzymes are added to the mix and physical grinding of the food occurs. The wall of the esophagus in birds has four layers namely mucosa, submucosa, muscularis tunic and serosa (Whittow, 1999) [2], esophagus obstruction with fish hook in fancy Aseel bird is not reported till now. This case report discuss the surgical retrieval of unusually fish hook along with large sized meat pieces as foreign body the was removed by oesophatomy from the distal part of the cervical oesophagus in a fancy Aseel bird.

Case description

A female one year old of a fancy Aseel bird of domestic fowl weighing around 2.5 kg and cost Rs.9, 000/ was referred with a history of protruding fish hook from its beak (Fig.1). The bird on clinical examination appeared dull and depressed and was making attempts to regurgitate. Further examination of bird was revealed presence of an unusual fish hook along with nylon thread at the caudal part of the oesophagus. On manipulation the hook seemed to be embedded inside base of the oesophagus of the mouth with nylon thread protruding out. The conscious Aseel bird was placed horizontally on the table to prevent walking and neck was manually extended to examine the exact location of the fish hook, It was decided to attempt surgical removal of the fish hook through esophagotomy under local infiltration analgesia using diluted 2% solution of lignocaine (Lox-2%, Neon laboratoires limited, Andheri East, Mumbai, India).



Fig 1: Location of fish hook and nylon protruding from its oral cavity

Results and Discussion

The base of the neck was prepared aseptically for surgery. Lignocaine solution 1:3 dilution was prepared with normal saline and 1.0 ml was infiltrated along the surgical line of the incision. Total dose should not exceed 4mg/kg in birds (Hawkins, 2006) [5]. Using index and thumb finger, the foreign body was held, and skin was incised. The esophagus over fish hook was healthy. To prevent the spillage of the secretion stay suture was placed cranial and caudal to the incision site. Esophagotomy Incision was made over the desired area and considerable maneuvering and tearing of the mucosa was required to free up the hood before it could be pulled out through the incision at the same time monofilament nylon was cut at the level of beak and remaining monofilament was retrieved out through surgical incision (Fig.2). As diagnosed by physical examination 2.72 cm



Fig 2: Removal and suturing of oesophageal wound



Fig 3: Fish hook along with chicken muscle piece



Fig 4: Recovery immediately after surgery



Fig 4: Recovery 2 months after surgery

Surgical removal of the fish hook in this case was carried out as it was a recent ingestion and therefore less likely to have caused severe complications. Esophagotomy is rarely reported in birds as the foreign body embedded in ventriculus or proventriculus (Lloyd, 2009; Lupu and Robins, 2009; Hoefler and Levitan, 2013; Applegate *et al.*, 2017) [6, 7, 8, 9]. A successful report of esophagotomy for esophageal impaction in goose suggested that per os (PO) retrieval is the first consideration for an esophageal foreign body is to lubricate the foreign body and to milk it into the crop and perform ingluviotomy (Muscatella, 1998) [19].

In the present case physical examination revealed the presence of a fish hook with sharp projections. Hence it was decided to perform an esophagotomy rather than squeezing the fish hook into the crop. The bird recovered uneventfully. This case was managed as per the opinion of Ninu *et al.* (2019) [4]. According to them the management of fish bone foreign body in birds could be done variably on the basis of the clinical signs, the nature and location of the surgeon. In this particular case, though the most indicated and preferred method was ingluviotomy after nudging the foreign body to the crop, the nature of the foreign body forced us to go for esophagotomy. Esophagus was sutured using appositional pattern. Simon and Pazhanivel (2017) [11] used a single layer of interrupted sutures for suturing esophageal wound. In the present case, in addition to the first layer of interrupted sutures, a second layer of continuous sutures was needed to prevent leakage. Kumar *et al.* (2016) [12] reported esophageal anastomosis in a cock using simple continuous sutures pattern. Carneiro *et al.* (2014) also reported esophageal defect closure after foreign body removal in pengusing simple continuous pattern. In this case, local analgesia was preferred over general anaesthesia by the anaesthesiologist after assessing the pain response and restrain characteristics of the fowl.

Local infiltration analgesia alone was found to be adequate for performing amputation of extralimb in a 7 month old layer chicken by Abu-Seida (2014). Administration of local anaesthesia enabled assessing any leakage following the suturing of esophagus by oral administration of water. Diluted lignocaine was used in the study to prevent toxicity as the recommended dose of lignocaine in birds is below 4kg/kg.

But, this may vary with species, In chickens there reports on use of higher doses of lignocaine for the blockage of brachial plexus without any adverse reactions (Hawkins, 2006; Figueiredo *et al.*, 2008; Imanai *et al.*, 2013) [5]. Esophagostomy tube placement is a recommended supportive care for sick birds which are unable to take feed and water orally or in cases where the food must bypass the mouth, esophagus or the crop (Huynh *et al.*, 2014). In the present case the fowl was not reluctant to take water after removal of the foreign body. But esophagostomy tube placement would have helped to bypass the esophageal lesion. However, the absence of any complications without the use of an esophagostomy tube may be due to liquid diet given to the bird, suture pattern used for the closure of the esophageal incision and an early intervention when the esophageal mucosa was healthy.

References

1. Deroy C, Benoit Corcuff J, Billen F and Hamaide A. Removal of oesophageal foreign bodies: comparison between oesophagoscopy and oesophagotomy in 39 dogs. *J Small Anim. Pract* 2012;56:613-617.
2. Whittow GC. *Sturkie's avian physiology*, 5th Edn., San Diego, USA, Elsevier 1999, 299-326
3. Ramesh R, Vijayanad V, Gopalakrishnan A, Ayyappan S. Crop impaction and its surgical management in a domestic fowl. *Journal of Entomology and Zoology studies* 2020;8(5):259-260.
4. Ninu AR, Uma Rani R, Vishnugurubaran D. Esophagotomy in a domestic fowl; a rare case report. *iranian journal of Veterinary Research* 2019;20(3):218-220.
5. Hawkins M. The use of analgesics in birds, reptiles and small exotic mammals. *Journal of Exotic pet medicine* 2006;15:177-192.
6. Lloyd C. Stages endoscopic ventricular foreign body removal in a Gyr Falcon (*Falco rusticolus*). *J. Avian Med. Surg* 2009;23:314-319.
7. Lupu C and Robins S. Comparison of treatment protocols for removing metallic foreign objects from the ventriculus of Budgerigars (*Melopsittacus undulates*) *J. Avian Med. Surg* 2009;23:186-193.
8. Hoefler H, Levitan D. Perforating foreign body in the ventriculus of an umbrella cockatoo (*Cacatua alba*). *J. Avian Med. Surg* 2013;27:128-135.
9. Applegate JR, Wettere AV, Christiansen EF, Degernes LA. Management and case outcome of gastric impaction in raptors: A case series. *J Avian Med. Surg* 2017;31:62-69.
10. Muscatella G. Esophageal impaction in a Canada goose. *Aust. Vet. J* 1998;76:537-560.
11. Simon SM, Pazhanivel N. esophageal foreign body (*Bambusa vulgaris*) in an emu. *Indian Vet. J* 2017;94:80-81.
12. Kumar PR, Prasad VD, Sailaja B, Raju DB. Surgical repair of oesophageal rupture in a cock (*Gallus domesticus*) *J. Livest. Sci* 2016;7:238-240.
13. Carneiro RL, Bonfada AT, Carvatho RDB, Nunes N. Posterior esophagectomy removal of foreign body in a 4 Magellanic Penguins (*Spheniscus magellanicus*) found off the coast of the state of Bahia, Brazil, *Ilavecc* 2014;6:18-25.