

Surgical Removal of a Tube-Like Foreign Body from an Alexandrine Parakeet (*Psittacula eupatria*) Using a Ventricular Approach: A Case Report

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Abstract: A two-month old juvenile parrot was presented with a history of swallowing a tube-like foreign body 3 days ago. On physical examination, the bird was depressed and the owner reported intermittent vomiting and lethargy during the past 3 days. The survey radiograph confirmed a foreign body started from caudal part of esophagus to the ventriculus. Initial attempts were not successful and then surgical removal by ventriculotomy under general anesthesia was attempted. This procedure was safe and uncomplicated and this approach can be recommended as an alternative method for removal of ventricular foreign bodies.

Key words: Alexandrine Parakeet • Ventriculotomy • Foreign Body

INTRODUCTION

Gastrointestinal (GI) foreign bodies are common in dogs and cats [1]. In birds, GI foreign bodies are reported in birds kept as companion animals such as parrots or in zoos, poultry and ostriches raised for food and birds in the wild [2].

Juvenile psittacine birds, especially hand-raised chicks, frequently ingest foreign objects such as toys, bedding and seed [3]. In this paper, surgical removal of long tube using a ventricular approach in a two-month old Alexandrine Parakeet is reported.

Case Presentation: A two-month old Alexandrine Parakeet was referred for history of ingestion of a tube. The bird was caged alone and feed by its owner with fruits and seeds. The owner reports indicated that it swallowed the tube three days before.

During the past three days signs included, intermittent vomiting, anorexia, weight loss and lethargy. Survey radiographs of the body were taken. Lateral and

ventrodorsal radiographs showed a long, tube-like foreign body traversing from thoracic inlet to mid abdominal cavity. Its anatomic location suggested the proximal end was in esophagus starting dorsal to the syrinx, cross proventriculus and ending in ventriculus. Proventriculus, intestinal loops and cloaca were distended that suggested inflammation (Figures 1 and 2).

First we decided to remove the tube by a probe but attempts were not successful and therefore decided to remove it through a ventral midline celiotomy. The bird was given Ringer's solution (50 ml/kg SC; Pharmaceuticals Production Company, Tehran, Iran) and anesthetized with isoflurane (1-3%; Isoflurane, Nicholas Piramal, London, UK) and oxygen by face mask and placed in dorsal recumbency with the head raised about 30 degrees on a heating pad. The wings were reflected dorsally while the legs were restrained and abducted in caudal direction. Feathers on the incision site were plucked. The skin was prepared for aseptic operation using Povidone iodine solution and alcohol and draped at the level of operation field.

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Fig. 1: Lateral radiograph of the parrot, showing a long tube-like foreign body within the celomic cavity.



Fig. 2: Ventrodorsal radiograph of the bird described in figure 1, showing the tube within celomic cavity.

The ventriculus was approached through a 5 cm ventral midline incision. The skin and linea alba were incised separately. We packed off the abdomen behind the ventriculus with saline-soaked gauze to minimize the effect of leakage. An initial stab incision was made which was extended with Metzenbaum scissors.



Fig. 3: Pulling the tube out using ventriculotomy.

Exploration in ventricular cavity was done by a small Mosquito and the tube was removed carefully (Figure 3). The ventricular incision was sutured in two continuous layers (opposed, then Cushing) with 4/0 Vicryl. Then the linea alba and skin were closed separately by a simple continuous suture pattern using the same suture material. The bird recovered uneventfully.

Postoperative management consisted of diet modification (soft food) and decreased activity for two weeks after surgery. Enrofloxacin (10% 10 mg/kg PO Lortryl, Damloran, Razak, Iran) and Metronidazole (16 mg/kg PO) for seven days and aspirin (325 mg per 250 ml drinking water) for 3 days were administered postoperatively. The bird was re-evaluated during six months postoperatively and the owner reported intermittent vomiting in the first two weeks postoperatively but it resolved and no other complications were observed.

DISCUSSION

Gastrointestinal foreign bodies are common in dogs and cats and ferrets [1]. Foreign body ingestion is reported in zoo birds, ratites and juvenile psittacine birds; however, foreign body ingestion by adult psittacine birds is uncommon [3]. Foreign bodies are most commonly found in crop, proventriculus, or ventriculus, although linear foreign bodies can extend into intestines [3-8]. Foreign body ingestion in birds may be the result of their curious nature or their compulsive pumping for food [9]. Some reports show that environmental stressors such as dramatic alterations of housing may result in foreign body ingestion [10].

Foreign body in gastrointestinal tract is usually diagnosed through history, clinical signs, laboratory tests and radiological findings. Clinical signs reported in cases with this problem such as anorexia, weight loss, lethargy, shifting leg lameness and reversion to neonatal behavior, indicated multisystem disease, making it difficult to localize the disease to the gastrointestinal tract. Common radiological findings in previously reported cases include dilation of the proventriculus and intestine, delayed emptying of contrast medium and intraluminal finding defects in the proventriculus and ventriculus. In previous reports of psittacine birds with GI foreign bodies, blood test results were nonspecific and included leukocytosis with heterophilia and abnormal plasma protein concentrations [3]. This parrot showed clinical signs such as, anorexia, weight loss and lethargy and radiological findings showed a tube like foreign body started from caudal part of esophagus to the ventriculus and was almost 7 cm in length. Laboratory tests were not done because of the clear history and the radiographs confirmed the presence of the tube.

The tube was removed successfully using a ventriculotomy. Although ventriculotomy is generally avoided, in view of the highly muscular walls (the physiological muscular activity can pull sutures out of the tissue) and the inability to form an inversion closure [11], because of the nature of the foreign body and available tools, a ventriculotomy was performed.

During any celiotomy procedure, the bird's head should be raised at 30-40 degrees to prevent any surgical irrigation fluid from entering the lung field. The bird was not intubated because of the increased risk of blockage of the small-diameter tubes by respiratory secretions [11]. Minimizing the area of feather removal, while still enabling

intraoperative control of sepsis [11], is beneficial in the control of intraoperative or postoperative hypothermia, so only 1 cm around the incision site were removed. Moreover, heat from a heating pad was used to control hypothermia. Postoperative management significantly affects the outcome of the procedure. Prevention of self-trauma, a rapid recovery, sufficient analgesia, fluid, thermal and nutritional support, as well as the minimization of stress, are vital [12].

The approach to ventricular foreign bodies in birds is affected by the nature of the foreign body, the clinical signs, the available tools and preference of the surgeon [13]. We previously, reported surgical removal of a ventricular foreign body from a common myna [14].

In this parrot, removal of the tube was achieved using a ventricular approach because of the nature of the object and the tools available. This procedure, which carries a guarded prognosis, was a reasonable option and resulted in a favorable outcome for the bird.

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