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Surgical Management of Foreign Body in Trachea in Labrador Dog

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A B S T R A C T

A female Labrador retriever dog was presented to the clinics with signs of cough and respiratory distress, complain of swallowing of stone while playing. Radiography of the neck and thorax confirmed the presence of foreign body in the middle of the trachea. Tracheotomy was performed through ventral cervical midline incision and the foreign body (stone) removed from the trachea successfully.

Introduction

Foreign bodies that involve the upper airway are uncommon but can cause upper airway obstruction when they lodge in the pharynx, larynx, or trachea. Foreign body inhalation is more common in dogs than cats. Airway foreign bodies are mostly vegetable in origin i.e. grass, grain heads (Johnson and Martin 2013) and Less common tracheal foreign body like stones, bones, endotracheal tube tracheal foreign body (Nutt *et al.*, 2014) are reported. Large objects have a tendency to be situated at the carina. The foreign bodies can be retrieved either manually, a laryngoscopy or bronchoscopy attempted to remove the object. If this is not possible or is unsuccessful, a tracheotomy or lobar excision will be required, depending on the location of the foreign body (Aron and Crowe, 1985). The exact location should be determined by radiography or endoscopy and a tracheotomy is then performed at the appropriate location (Bjorling *et al.*, 2000). In the present report a case of foreign body in trachea and its successful retrieval through surgery was discussed.

Clinical signs

A female Labrador retriever dog was presented with complains for ingestion of stone while playing with signs of cough and respiratory distress. Increased dyspnea on tracheal palpation with rectal temperature of 102.2 ˚F, Pulse: 92 bpm, and Resp. Rate: 42 bpm was observed. Radiography clearly revealed the presence of foreign body was at the level of C3 –C4 cervical vertebrae (Fig. 1) Continuous cough/positional manipulation

could not relieve the foreign body from the site of location. Surgical management with Tracheotomy was inevitable under general anaesthesia for removal of foreign body.

Materials and Methods

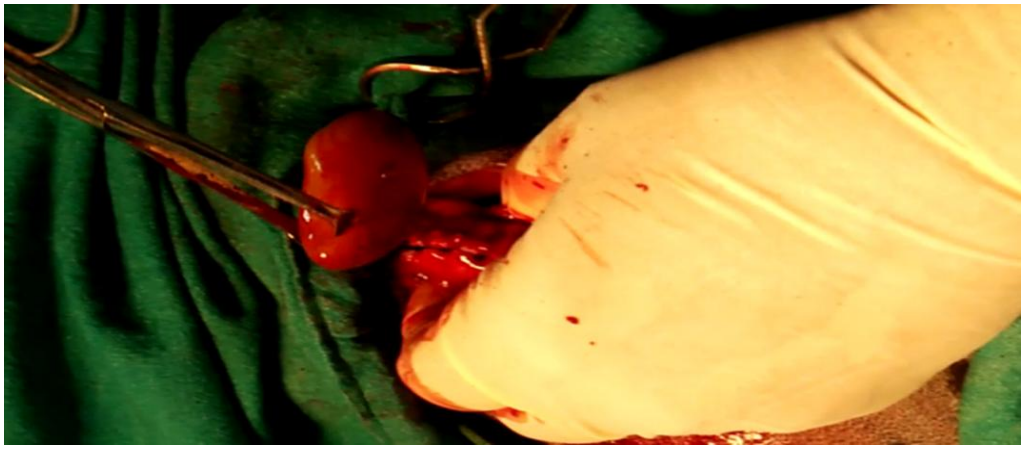
The dog was anaesthetized with. Xylazine @ 0.5mg / kg b. wt. And Ketamine@ 2mg/kg i/m for induction and Maintenance under Inj. Propofol @4-6mg/kg b.wt. intravenously. Tracheotomy is performed to gain to assess to the lumen to remove the foreign body through the cervical trachea. A ventral cervical midline incision, extending the incision from the larynx to the sternum was made to allow adequate exposure and separated the sternohyoid muscles along with their midline and retracted them laterally. The peritracheal connective tissue from the ventral surface of the trachea was dissected by taking care to prevent traumatizing the recurrent laryngeal nerves, carotid artery, vagosympathetic trunk, jugular vein, thyroid vessels or esophagus. Immobilized the trachea between the thumb and the forefinger and a horizontal incision through the wall of the trachea was made to expose the lumen of trachea. Retrieved the foreign body with Alley's forceps (Fig. 2) and, the tracheal edges were opposed through in simple interrupted suture pattern using 3-0 Polypropylene. Sternohyoid muscles were opposed in a simple continuous pattern with 3-0 absorbable suture. Incision was closed with subcuticular sutures using chromic catgut no.1-0 and the skin incision in a routine fashion. Post operatively, Inj. Cefotaxime-25mg/kg BW IM, o.d. for 5 days, Inj. Melonex@0.5mg/kg BW IM, o.d. for 3 days, Inj. Dexona@0.5mg/kg BW IM, o.d. on day of operation were administered with daily dressing of the surgical wound for 1 week. The wound healed by 14 the day. The dog made an uneventful recovery with rapid resolution of clinical signs without any complications over a post-operative period.

Results and Discussion

In the present case of tracheal foreign body (stone) was removed by performing tracheotomy to gain direct access to the tracheal lumen with the help of radiography as recommended by Bjorling *et al.*, (2000) and the dog returned to normal respiratory function.

Fig.1 Radiopaque foreign body lodged at level of C3-C4 in trachea in a dog

Fig.2 Retrieval of foreign body (Stone) with Alley's forceps in a dog



Surgery was an option as endoscopic removal of such large sized foreign body lodged in cervical trachea is difficult or impossible to remove with grabbing forceps. The compression of the abdomen or thorax or vigorous shaking of animal is performed to dislodge the object. If this is unsuccessful, an airway can be established and a laryngoscopy or bronchoscopy attempted to remove the object carefully with snares.

If this is not possible or is unsuccessful, a tracheotomy or lobar excision will be required, depending on the location of the foreign body (Aron and Crowe, 1985). Inhaled laryngeal, trachea-bronchial foreign bodies (radiolucent) like grass, grains heads, sticks are best removed by endoscopy (Johnson and Martin, 2013).

Radiographic diagnosis was obvious of airway obstruction due to a tracheal radiopaque foreign body. A tracheotomy is then performed at the appropriate location (Bjorling *et al.*, 2000) as performed in the present case. Early and prompt surgical procedure yielded in successful recovery of the clinical condition.

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