

SUCCESSFUL SURGICAL MANAGEMENT OF TRAUMATIC TRACHEAL RUPTURE IN A INDIAN FANTAIL PIGEON (*Columba livia domestica*)

V Tejaswani¹ and P Ravi Kumar^{2*}

¹Veterinary Assistant Surgeon, Veterinary Dispensary, Kannurupalem,
Visakhapatnam

²Assistant Professor, SVVU Super Speciality Veterinary Hospital, Visakhapatnam
E-mail: ravikumarpallitvm1018@gmail.com (**Corresponding Author*)

Abstract: A 2 year old Indian Fantail Pigeon which was presented to the clinics found to have an injury at the neck region with severed trachea. The bird immediately shifted for oxygen therapy and given primary medication. The condition was diagnosed as a tracheal rupture and decided for surgical anastomosis of trachea. The surgery was performed under light plane of anesthesia and trachea was anastomosed. The bird recovered uneventfully and no post-operative complications are recorded.

Keywords: Indian fantail pigeon, tracheal injury, tracheal anastomosis.

Introduction

In birds trachea is a hollow organ which connects larynx to bronchi. Epiglottis is absent in birds and larynx controls the opening and closing of Rima glottides. The trachea runs along with the esophagus and continue into chest cavity. The structure of trachea is different in different bird species. Tracheal injuries has been reported in dogs (Kumar et al., 2016), in cats (Mitchell et al., 2000) and in goat (Kumar et al., 2016) but no reports are available on traumatic tracheal rupture and anastomosis in birds. In the present paper successful surgical management of a Traumatic tracheal rupture in Indian fantail pigeon by surgical anastomosis is discussed.

History and Diagnosis:

A 2year old Indian Fantail Pigeon was presented to the clinics with a complaint of neck injury caused by rotating sealing fan (Fig-1). The findings of physical examination disclosed the separation of trachea into proximal and distal halves. Esophagus appeared normal with no markable injuries. Difficulty in respiration has been seen in the bird. Lateral radiograph has been taken and findings of the radiograph were not conclusive. Based on the findings of physical examination, the condition has been diagnosed as traumatic tracheal rupture and decided for surgical anastomosis under general anaesthesia.

Treatment and Discussion

The bird was given light plane of General anesthesia with intramuscular injections of Xylazine Hcl at the dose rate of 2mg/Kg and Ketamine Hcl at the dose rate of 10mg/Kg. Tracheal patency was maintained by passing a tracheal tube (12F size infant baby feeding tube) with both ends open, through the larynx, proximal and distal parts of trachea (Fig-2). The feathers surrounding the wound area are plucked and the wound was prepared aseptically. Proximal and distal halves of trachea are separated and then anastomosed by applying simple interrupted sutures (Fig-3) using Size 3-0 Polyglactin 910 (Vicry 3-0) involving one tracheal ring on either side. The skin edges were apposed as per the standard procedure without leaving any dead spaces (Fig-4). Postoperatively, the bird was given Enrofloxacin at the dose rate of 5mg/Kg body weight intramuscularly and Meloxicam at the dose rate of 0.2 mg/Kg body weight subcutaneously for 3 days. Regular dressing of the sutured area of skin was done up to 8th postoperative day by which time complete healing of skin wound was noticed postoperative complications are not seen in the bird during an observation period of six months.

In the present case, the tracheal rupture had been reported to result from a trauma at cervical region of the bird during its flight by the rotating sealing fan. This type of etiology hasn't been reported earlier in birds and very less literature is available on surgical management of tracheal rupture in birds. The ends of the trachea at site injury were identified clearly at the time surgery. Roach and Krahwinkel (2009) advised to pour normal saline at the site of injury to identify the ends of trachea. Simple interrupted sutures have been placed for tracheal anastomosis in the present case. Kumar et al., (2016) had followed the same pattern of sutures for laryngo tracheal anastomosis in a goat and witnessed a successful outcome whereas; Nelson, (1993) and Fingland et al., (1995) opine that, continuous suture pattern was dominant over simple interrupted pattern in duration of its application and apposition of segments. Fingland, (1994) and Lipowitz et al., (1996) opined that, postoperative complications like laryngeal paralysis, coughing, edema of larynx etc. may occur following tracheal anastomosis, whereas; such complications were not noticed in the present case during an observation period of six months.

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Fig-1: Photograph showing cervical injury in a Indian Fantail Pigeon



Fig-2: Photograph showing tracheal rupture along with a tracheal tube to maintain air way patency. (Not the ends of severed trachea)



Fig-3: Intraoperative photograph showing anastomosis of trachea



Fig-4: Immediate postoperative photograph showing closure of skin wound