

Tracheal Rupture due to Dog bite and its Surgical management in a Pomeranian dog

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ABSTRACT

The paper reports, surgical repair of tracheal injury in a dog. Diagnosis was based on history of dog bite and clinical signs. The tracheal tear was identified and tracheal cartilage were aligned and sutured in position with fine monofilament chromic catgut no. 1. Muscle and skin layers were approximated in routine manner. Post-operatively anti-inflammatory drugs, antibiotics, analgesics along with daily dressing were given. Skin sutures were removed on 12th postoperative day. The patient recovered uneventfully.

KEYWORDS: Dog bite; emergency; subcutaneous emphysema; surgical treatment; tracheal rupture.

Introduction

The canine trachea is a flexible, tubular organ containing 35 to 45 semicircular hyaline cartilages and lined with a ciliated respiratory mucosa (Bojrab, 1983). Persistent peritracheal, subcutaneous or mediastinal emphysema indicates the need for a careful examination of tracheal or bronchial damage. Laceration of the trachea might be severe enough to produce significant subcutaneous and mediastinal emphysema. Extensive tissue damage frequently accompanies penetrating bite and gunshot wounds (Slatter, 1995). Tracheal laceration and respiratory distress is treated as an emergency (Gilson, 1998). Any ignorance in the care of pet dogs during their exercise may pose chances of fight with street dogs. The most common site for attack during fighting is neck region which results into traumatic injury to the cervical trachea and adjacent tissues. The present communication describes surgical management of tracheal injury in pet dog owing to the bite by street dog.

Case History and Clinical Observation

A routinely vaccinated, 3.5 years old male Pomeranian dog was brought with the history of extensive dog bite at the neck region, when the dog was taken for morning exercise. The dog

appeared restless, respiratory distress, tachycardia and severe subcutaneous emphysema which was gradually increasing. Froth appeared at the site of bite injury. The case was tentatively diagnosed as tracheal rupture. Looking into the severity and emergency of the case, it was decided to do radical surgery to relieve the patient from the injury.

Treatment

Immediately after admission, the patient was given Inj. dexamethasone (8mg) i/m. after routine aseptic preparations. The animal was pre-medicated with atropine sulphate @ 0.04 mg/kg, body weight, i/m, followed by sedation with inj. xylazine @ 0.5mg/kg body weight; i/m. The neck region was thoroughly cleaned and washed with betadine solution and general anaesthesia was achieved by inj. ketamine @ 5 mg/kg body weight intravenously. The tracheal leak was identified and the cartilage of trachea were aligned and sutured in position with fine monofilament chromic catgut no. 1 as per Harari (2000) and checked for any air leak. Muscles were approximated with chromic catgut no. 2. The skin wound was closed by simple interrupted suture pattern using silk keeping a drainage at the dependent part so as to control infection (Fig.1).

Post-operatively inj. Intacef^a 500 mg, i/m, inj. Melonex^a 0.2 mg/kg body weight, i/m inj. tetanus toxoid, 1ml, i/m were given. The antibiotic was continued for 8 days after surgery while the

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analgesic was discontinued after 3 days. Daily antiseptic dressing was done with silver sulphadiazine ointment. Skin sutures were removed on 12th post-operative day. The case was followed upto for 3 months and had an uncomplicated recovery.



Fig. 1: Animal just after surgery

Discussion

In small dogs, the simple interrupted suture pattern penetrating the cartilaginous rings adjacent to the incision is the best method to obtain tissue alignment (Fossum, 2000). Bite wound carries more chances of infection thus a prolonged broad spectrum bactericidal antibiotic therapy is

required, alongwith drainage of the peritracheal area. Dyspnea, subcutaneous emphysema, air transgression through the open wound and pneumomediastinum are the common findings of the tracheal rupture. These findings are similar as reported by Gilson (1998).

Summary

A case of penetrating tracheal injury was successfully treated surgically without any complication.

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