

SURGICAL MANAGEMENT OF MANDIBULAR FRACTURE AND TONGUE LACERATION FOLLOWING FIRE-CRACKER EXPLOSION IN THE MOUTH OF A FOUR-YEAR-OLD DOG- A CASE REPORT

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ABSTRACT

Mandibular fractures are common in dogs accounting to six per cent of all the fracture cases in dogs. A four-year-old male non-descript dog was presented with bleeding from mouth following firecracker explosion in mouth. Clinical examination of the oral cavity revealed unilateral compound fracture of horizontal rami of right mandible along with tongue lacerations on both dorsal and ventral aspect of tongue. This paper reports successful correction of mandible fracture using inter-fragmentary wiring, reconstruction and management of tongue laceration.

Keywords: Mandibular fracture, Inter-fragmentary wiring, tongue laceration.

INTRODUCTION

Dogs have been known to try and attack fire-crackers which results in traumatic injuries which can even lead to death. Eighty percent of the mandibular fractures in dogs involve the mandibular body with most commonly affected site being the premolar area (Glyde and Lidbetter, 2003). Most mandibular fractures occur traumatically following road traffic accidents, fall from heights or fighting injuries (Kachwaha, *et al.*, 2000). Less commonly, pathological mandibular fractures may occur secondarily to periodontal, neoplastic or metabolic disease, and iatrogenic fractures can occur during dental treatment. These abnormalities may be acutely life-threatening and may require prompt diagnosis and treatment. Definitive fracture repair

must often be delayed until the animal has been appropriately stabilized. Uncomplicated mandibular symphyseal fractures are relatively simple to manage surgically and heal quite quickly on an average, within five to six weeks in dogs and cats with low complication rates (Tiwari *et al.*, 2012). Animals with mandibular fractures that have high fracture assessment scores of 8 to 10 may be treated with tape muzzles, interdental fixation, interdental wiring, or interfragmentary wiring techniques, depending on fracture location (Fossum, 2013).

CASE HISTORY AND OBSERVATION



Fig 1. Laceration on dorsal aspect of tongue

A four-year-old male non-descript dog was presented with the history of bleeding from mouth following a firecracker explosion inside the mouth. Clinical examination of the oral cavity revealed compound fracture towards rostral end of mandible along with

lacerated wounds on both dorsal and ventral aspect of tongue (Fig 1). Clinical parameters were within normal range but hemogram revealed mild anemia.

TREATMENT AND DISCUSSION

Under general anesthesia, inter-fragmentary wiring of mandibular fracture, and reconstructive surgery for tongue laceration were resorted to. Ceftriaxone and Meloxicam were given pre-emptive prior to surgery. The animal was then premedicated using Xylazine and Butorphanol each @ 0.2mg/kg b.wt. intramuscularly and later induced with Midazolam @ 0.2mg/kg b.wt. and Ketamine @ 3mg/kg b.wt. Anesthesia was maintained using 1.5% Isoflurane in oxygen.



Fig 2. Radiograph after inter-fragmentary wiring

Fracture was approached intr-aorally. Two holes each were drilled on either side of fracture line and an 18-gauge orthopedic wire was passed across in a figure of eight manner and fastened tight to effect alignment and compression (Fig 2). The sharp ends of the cut wire were then curled onto itself to avoid surrounding soft tissue damage.



Fig 3. Reconstructed dorsal side of tongue



Fig 4. Reconstructed ventral side of tongue



Fig 5. Pharyngostomy tube in place

Pharyngostomy was done and feeding tube was placed and retained using Chinese finger trap suture (Fig 5)

Lacerated tongue was reconstructed by suturing the wound margins on the dorsal and ventral aspects using polyglactin 910 in simple interrupted suture pattern. (Fig 3 and Fig 4)

Post-operatively Ceftriaxone @ 25mg/kg b.wt. intravenously for 5 days and Meloxicam @ 0.2 mg/kg b.wt. was given intramuscularly for 3 days. Animal was fed through pharyngostomy tube for 2 weeks and later resumed oral feeding. Clinical healing of fracture occurred within four weeks and the animal had an uneventful recovery.

Fire-crackers can be considered as a major threat to companion dogs. Playful nature of these dogs and their tendency to bite such inanimate objects makes them highly prone to injuries of oral cavity including fractures. Inter-fragmentary wires are ideal for stabilizing relatively simple, re-constructible mandibular fractures (Umphlet and Johnson, 1990). Large-gauge orthopedic wire (18- to 22-gauge), properly applied, provides adequate fracture stability and has advantage of providing internal fixation with minimal aftercare. The animal had both lacerations on the tongue and mandibular fracture which had caused difficulty in oral feeding. Hence pha-

ryngostomy was performed.

SUMMARY

Mandibular fracture and tongue laceration in a four-year-old dog was successfully corrected surgically using inter-fragmentary wiring and reconstructive surgery.

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