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SUCCESSFUL MANAGEMNT OF MANDIBUAR FRACTURES IN DOGS: A REPORT OF TWO CASES

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Abstract: Two non-descript dogs of different age groups presented to the SVVU Super Speciality Veterinary Hospital, Visakhapatnam with a history of unilateral mandibular fracture due to road accident. Clinical examination revealed that the physiological parameters and hemato-biochemical parameters were within the normal range. Radiography revealed fracture of mandibular symphysis and cranial third of horizontal ramus between right canine and 1st premolar teeth in one dog and fracture between right 1stand 2nd premolar teeth in another. They were treated with interfragmentary orthopaedic wiring under general anesthesia. Both dogs were recovered within a week and no complications were recorded under follow up period of eight months.

Keywords: mandibular symphyseal fracture, orthopaedic wiring, non-descript dogs.

Introduction

Mandibular fractures in companion animals usually occur secondary to trauma (Boudrieau, 2012) and accounts for 1.5-2.5% of all fractures. The most common site for mandibular fractures is between 1st and 2nd premolar teeth in dogs (Harasen, 2008). Mandibular fractures were treated using muzzle tapes, circumferential wiring, intraoral splinting, interdental wiring, intraosseous wiring, plating technique and external skeletal fixation technique. A surgical method or combination of methods is used based on the fracture site, duration of presentation for the treatment and associated damage with fractures (Boudrieau, 2012). The most common fixation technique used for correction of mandibular fractures is interdental wiring (Rastabi et al., 2017). In the present study, unilateral mandibular fractures were successfully treated using interfragmentary orthopedic wiring in two dogs.

Clinical observations

Two non-descript dogs aged about five and eight months were presented to SVVU Super Speciality Veterinary Hospital, Veterinary Hospital, Visakhapatnam with a history of

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mandibular fracture due to trauma. The physiological, hemato and biochemical parameters were within the normal range.

Case 1: On clinical (Fig.1) and radiographic examination (Fig.3) under sedation revealed fracture of mandibular symphysis and cranial third of horizontal ramus between right canine and 1st premolar teeth.

Case 2: On clinical (Fig.3) and radiographic examination (Fig.4) under sedation revealed fracture between right 1stand 2nd premolar teeth.

Fig.1

Fig.2

Fig.3

Fig.4

Fig.1&2. Fracture of horizontal ramus and mandibular symphysis (Case 1)

Fig.3&4. Fracture of mandibular symphysis (Case 2)

Treatment and Discussion

The dogs were administered preoperatively with inj. Cefotaxime sodium @ 25 mg per kg body weight and inj. Meloxicam @ 0.2mg per kg bodyweight intravenously. Both the dogs were preanesthetised intramuscularly with inj. Xylazine and inj. Butorphanol @ 1mg & 0.2mg per kg body weight respectively and induced anesthesia using Propofol @ 3mg/kg body weight intravenously up to the effect followed by maintenance with Isoflurane and Oxygen. The oral cavity was aseptically prepared by through irrigation using diluted Povidone iodine. After debridement of fracture ends, interfragmentary wiring was performed using 22G Stainless Steel

wire for both the cases (Fig.5,6,7,8). The oral mucosa was sutured using 2-0 polyglactin 910. Postoperatively, the dogs were given tab. Cefpodoxime proxetil @ 10 mg/kg body weight for 7 days and tab. Carprofen @ 4 mg/kg body weight SID for 4 days orally. The dogs were maintained with gruel feeding up to three weeks. Both the dogs were recovered uneventfully without any complications. The wires were removed after 90 postoperative days.

Fig.5

Fig.6

Fig.7

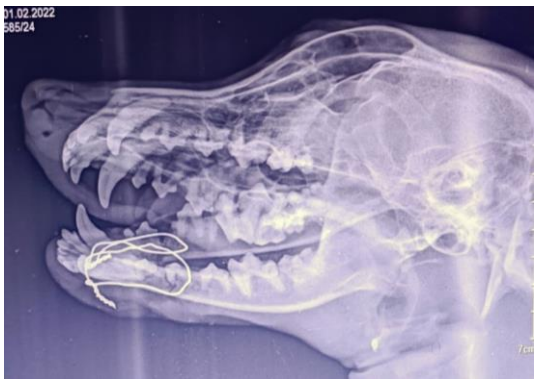

Fig.8

Fig.5&6. Alignment of jaws after interfragmentary wiring (case 1)

Fig.7&8. Alignment of jaws after interfragmentary wiring (case 2)

The etiology of mandibular fractures is commonly due to trauma by automobile accidents and falling from heights (Uma Rani et al.2023) as observed in the present cases. The main aim of surgical correction is to achieve normal or near normal anatomic alignment by proper reduction and immobilization of fractured fragments of mandible for comfortable prehension (Fubini and Ducharme, 2017). In the present cases, interfragmentary wiring with 22 G stainless steel wire provided adequate immobilization and healing of the fracture fragments. The common postoperative complications of mandibular fractures in dogs reported are infection of the buccal cavity, wire loosening, mucosal ulceration, osteomyelitis, malalignment and submandibular abscess (Basith et al.,2017). No, such complications were observed in the present study. It is

concluded that the inter fragmentary wiring is less invasive technique and ensures early return to function without any post-operative complication in mandibular fractures of dogs.

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