

MANAGEMENT OF MANDIBLE FRACTURES USING INTERDENTAL WIRING (IDW) IN CAMELS

S. Purohit, Vimlesh Kumar, Gulshan Kumar and R.P. Pandey

Department of Veterinary Surgery and Radiology, College of Veterinary Science and Animal Husbandry, DUVASU, Mathura, U.P., India

Fractures of the mandible are very common in male camels and these occur during rut season due to fighting with other male camels and grasping of the hard objects. These are generally compound in nature and become contaminated later. The presence of mental canal, alveoli of tusks and comparative long length of the body of lower mandible makes this area more weak and susceptible to fractures (Gahlot and Chouhan, 1994). A variety of fixation methods have been utilised to manage mandible fractures in camel including using transfixation pins along with plaster of Paris bandaging (Gahlot and Chouhan, 1994), bone plating (Kumar and Singh, 1979), plaster of Paris bandage and a wooden plate as a splint (Lavania, 1998), interdental wiring (Gahlot *et al*, 1989) and application of a U-shaped aluminium bar (Ahmed and Al-Sobayil, 2012). Successful management of mandible fractures using interdental wiring in camels is documented in this report.

History and Clinical Examination

Present study was conducted on 3 adult male camels presented with history of the trauma and hanging of the lower jaw with salivation (Fig 1). The feed and water intake were completely suspended. Clinical examination revealed bilateral fracture of the mandible which were further confirmed by a lateral radiograph. Radiographs revealed transverse bilateral mandibular fracture usually rostral to canine teeth (Fig 2). The interdental wiring (IDW) technique using copper wire was used to immobilise the bilateral mandible fracture in these cases.

Treatment

The camels were restrained in sternal recumbency and sedated with xylazine @ 0.3 mg/kg body weight, intravenously. The oral cavity was irrigated with light potassium permanganate solution to remove the feed straws, clots and debris. Interdental wiring (IDW) was done as per the method

of Gahlot *et al* (1989). The twisted ends of the wires were trimmed about 1 cm from the base and directed towards the central incisors to prevent injury to the mucosa of lower lip. The fractured fragments of the mandible were reduced adequately by manual palpation, however, a slight ventral deviation of the lower jaw was noticeable in one case.

Post operatively, broad spectrum antibiotic and analgesics were administered parenterally for 5 days. Three doses of Injection containing vitamin A, D₃, E; 20 ml was also administered intramuscularly on alternate days. Mineral mixture supplementation was followed for 4 weeks. The irrigation of oral cavity with light potassium permanganate solution was done daily till healing of the oral cavity wound. Postoperative radiographic evaluation revealed satisfactory anatomical alignment of the fracture (Fig 3). Clinical and radiographic evaluation on 7 weeks also revealed good anatomical alignment and callus formation (Fig 3). The animals were allowed free access to water and semisolid foods for two weeks. Later, leafy feed was offered for next 4 weeks. Follow-up of the animals up to three months after surgery revealed a satisfactory restoration of prehension and mastication of roughage. No complication was observed and wires were removed after 8 weeks.

Discussion

The main objective of mandibular fracture treatment was to provide an adequate anatomical reduction, satisfactory fixation, restoration of normal occlusion and prehensile functions. Mandibular fractures close to the alveoli of tusks are often. The fracture fragment's sharp edges easily disrupt the gingiva. Standard interdental wiring technique using 1.0 mm diameter stainless steel, silver or copper wire has been reported to repair such fractures in camels (Gahlot *et al*, 1989). Purohit *et al* (2013) also documented the successful management of lower

SEND REPRINT REQUEST TO S. PUROHIT email: spurohit2000@gmail.com