

SURGICAL RECONSTRUCTION OF AN EXTENSIVE LACERATED WOUND AT THE SNOOT REGION IN A DOG

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Abstract: A nine month old male dog was presented with a dog bite induced extensive lacerated wound extending from the nostrils to facial tuberosity. The animal was stabilized with fluid and oxygen therapy and the extensive wound was repaired after passing nasopharyngeal tube, under general anesthesia.

Keywords: Nasal laceration, Nasal conchae, surgical reconstruction, Dog.

Introduction

Wounds due to bites have a special importance in traumatology as they can lead to more complications when compared to similar soft tissue wounds of other origin (Aigner et al., 1996). Dog bites may result in mild to severe injuries occasionally challenging the Veterinary surgeons.

The snout region in animals is mostly liable to be attacked by ferocious and wild animals due to the nosy posture. The snout is the protruding portion of the face comprising the nose, mouth and jaw. The bites may leave a small wound on the skin and extensive wound in the underlying tissue, due to presence of loose skin in dogs. Further, presence of larger numbers of bacteria in oral cavity of animals makes the bite wounds complicated for treatment, especially more so when, they are extensive and contaminated (Wolff 1998). In the present case, surgical management of dog bite induced extensive lacerated wound involving the right rostral snout region in a dog was discussed.

Case history and observations:

A nine year old male mongrel dog was presented to the department of veterinary Surgery and Radiology, NTR College of Veterinary Science, Gannavaram with extensive lacerated wounds over the right nostril (Fig 1). It was said to have been bitten by a street dog on the previous day. The wound appeared dry with no discharges. Nasal septum and nasal conchae were visible through the wound on the dorsal wall of nasal cavity. All the physiological

parameters were found normal. Swelling of the right rostral snout along with mild respiratory distress was identified. Though hematological parameters showed mild decrease in the hemoglobin percentage, anemic signs were not evident. Based on the findings of clinical examination, the condition was diagnosed as a laceration involving flews of right rostral snout region and surgical reconstruction was planned and executed.

Treatment and Discussion

The animal was stabilized with administration of normal saline @ 25ml/Kg and Ringer's lactate @ of 25 ml/Kg body weight intravenously besides intramuscular injections of Theophylline at the dose rate 5 mg/Kg body weight and Dexamethasone at the dose rate of 1mg/Kg body weight. The animal was kept under oxygen therapy through a face mask during the period of stabilization. After stabilization, the rostral snout region was prepared for aseptic surgery and the dog was premedicated with atropine sulphate @ 0.04 mg/Kg Body weight subcutaneously; anaesthesia was induced with Ketamine hydrochloride @ 5mg/Kg body weight and Diazepam @ 0.5 mg /Kg body weight intravenously and was maintained with Isoflurane. A 10 No. infant baby feeding tube was passed as a nasopharyngeal tube so as to maintain the patency of the nasal cavity. The wound edges were debrided and then opposed to bring the normal anatomical shape of the dorsal wall of nasal cavity. The cartilage was sutured by simple interrupted sutures using Vicryl No 2-0 (Polyglactin 910) followed by suturing of skin edges as per standard procedure (Fig 2). Postoperatively, the animals was given intra muscular injections of ceftriaxone sodium at the dose rate of 25 mg per Kg body weight for 5 days, Meloxicam at the dose rate of 0.2 mg per Kg body weight for 3 days and supportive therapy with multivitamin tonics orally for 15 days and hematonics orally for 30 days. As the animal was vaccinated with anti-rabies vaccine previously, no post bite vaccination was considered. Inflammatory exudate from nostrils was noticed during the first five postoperative days which was found ceased by sixth postoperative day. The skin sutures were removed by 15th postoperative day by which time complete healing of wound was observed. The animal recovered uneventfully and no complications were noticed during an observation period of six months.

The present condition was noticed in a nine month old male dog which is in concomitance with the findings of Ehimiyein et al., (2014) who reported that, the incidence of dog bites was more common in male unneutered dogs when compared to other dogs. Kilic and Sarlier (2003) reported this incidence as 75% in males whereas Shamir et al., (2002) reported it as 71%. The complexity of the dog bite injury varies depending on its extensiveness and

anatomical location of the injury. In the present case, the lacerated wound over the dorsum of the nasal cavity made the animal to suffer from respiratory distress. The flaps i.e. the loose parts of the skin that hang to different lengths over the mouth are particularly vulnerable to be attacked in those breeds that have a considerable muzzle area, compromising the patency of the upper respiratory tract. Moreover, injuries over the face of the animal decrease their aesthetic appearance besides other complications. Reports are available mentioning life threatening injuries due to dog bites like Raghunath et al., (2016) who reported a case of dog bite induced bladder rupture in a Pomeranian dog and Sumiran et al (2016), who reported a dog bite induced extensive bilateral maxillary laceration obliterating the upper respiratory tract. Debriding of the wound edges followed by suturing was done in the present case. Similar treatment protocol was also recommended by Kilic and Sarlier (2003) to treat extensive dog bite wounds. The major complication followed by dog bite injury is rabies. But in the present case, as the animal has already been vaccinated for rabies previously, no post bite vaccination was considered. Stabilization of the animal followed by surgical reconstruction and proper postoperative care yielded a good recovery in the present case.

References

- [1] Aigner N, König S, Fritz A. Bite wounds and their characteristic position in trauma surgery management. *Unfallchirurg* 1996;99:346-50.
- [2] Ehimiyein AM, Nanfa F, Ehimiyein IO and Jahun BM. Retrospective study of dog bite cases at Ahmadu Bello University, Zaria, Nigeria and its environment. *Vet. World*, 2014. EISSN: 2231-0916, Vol(7):13.
- [3] Kiliç N and Sarierler M (2003) Dog Bite Wounds: A Retrospective Study (114 Cases). *YYÜ Vet Fak Derg* 2003, 14 (2): 86-88.
- [4] Raghunath M, Ravi Kumar P, Vidya Sagar P et al. Diagnosis and Surgical Management of Dog Bite Induced Cystorhexis in a Dog. *Research & Reviews: Journal of Veterinary Science and Technology*. 2016; 5(1): 20–22p.
- [5] Shamir CK, Leisner S, Klement E, Gonen E, Johnstone, DE (2002): dog bite wounds in dogs and cats: a retrospective study of 196 cases. *J. Vet. Med. A*. 49:107-112.
- [6] Sumiran N, Deviprasad, V and Mahesh R 2016. Reconstructive surgery of maxilla along with emergency tracheotomy. *Intas polivet*, 17(2): 631-633
- [7] Wolff KD. Management of animal bite injuries of the face: experience with 94 patients. *J Oral Maxillofac Surg* 1998;56:838-43.



Fig-1: Photograph showing the extensive lacerated wound at the right nostril



Fig-2: Postoperative Photograph showing reconstructed lacerated wound.