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Case Report

Ear,Nose and Throat Section

Traumatic Bull Gore Injuries to Oropharynx- A Case Report

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ABSTRACT

Bull gore injury is not an uncommon injury comprises 2% among the traumatic injuries, especially in the rural area. The damage is predominantly caused by the animal's horn tip. The abdomen and perineum are the most commonly affected organs; additional organs include the lower limb, upper limb, chest, and others. Palatal lacerations are more common in children when they put objects in their mouth or by falling down with the object inside, but oropharyngeal injuries due to bull gore are scarce. Authors hereby reports two cases, in first case, a 3-year-old female child was brought with alleged history of injury to the soft palate by the horn of a cow. The tensor veli palatine muscle tear was repaired, submucosa and mucosal layer was sutured. In second case, a 62-year-old male came with alleged history of trauma, hit by a bull while driving two wheeler following which patient had deep laceration in the submental region, laceration in the floor of mouth and ventral surface of tongue. The mylohyoid muscle injury was identified and repaired. The wound was closed in layers from muscle to skin. Thus, bull gore injuries have a wide range of presentation from minor lacerations to life threatening injuries to oral cavity, neck, chest and abdomen. Timely admission and prompt treatment, repair of lacerations under proper sterile environment is important.

Keywords: Perforation, Repair, Soft palate, Trauma

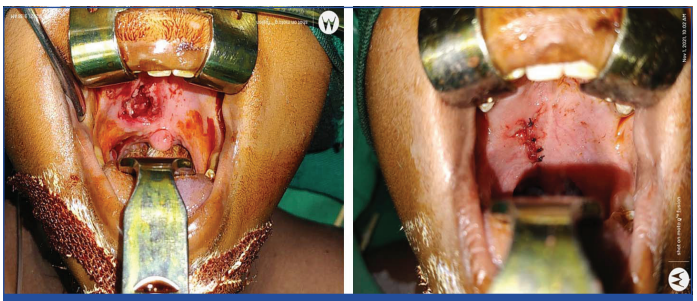
CASE REPORT

Case 1

A 3-year-old female child was brought to the Emergency Department with complaints of bleeding from oral cavity, pain at site of injury. There was alleged history of injury to the soft palate by the horn of a cow one hour before presenting to the hospital. She was refusing to take oral feeds since injury and was temporarily treated with intravenous fluids and analgesics in the Emergency Department. There was no history of aspiration or regurgitation of food and water. There was no history of dyspnea, stridor or change in voice. There was no history of other injuries in head and neck.

On general examination, child was conscious, oriented, active, alert and vitals were stable. On extraoral examination mild abrasion was seen over the upper and lower lips on right-side. Intraoral examination showed perforation measuring 2×1 cm on right-side of soft palate, margins were irregular with blood streaks and clot. There was no active bleeding [Table/Fig-1]. Uvula was in midline. Soft palate movements was normal. Rest of the oropharynx was normal. Necessary blood investigations for anaesthetic fitness was done which showed that haemoglobin was 12.7 gram/dL, platelet count was 4.02 lacs/cumm, total white blood cells count was 5,300 cells/cumm, bleeding time was 2 minutes, clotting time was 4 minutes, random blood sugar was 98 mg/dL, chest X-ray and electrocardiogram was normal.

Under sterile aseptic precautions and under general anaesthesia the child was placed in rose position. Mouth was wide opened with Boyle davis mouth gag and slotted tongue blade. Laceration visualised on right-side of soft palate. After proper irrigation and suctioning tensor veli palatini muscle tear was observed. Using 4-0 vicryl suture, the tensor veli palatini muscle tear was repaired, finally submucosa and mucosa sutured [Table/Fig-2]. Then oral cavity was checked for any bleeding and haemostasis was achieved. The child tolerated the procedure well, hence extubated and shifted to Surgical Intensive Care Unit (SICU) under stable condition. Postoperatively, patients was treated



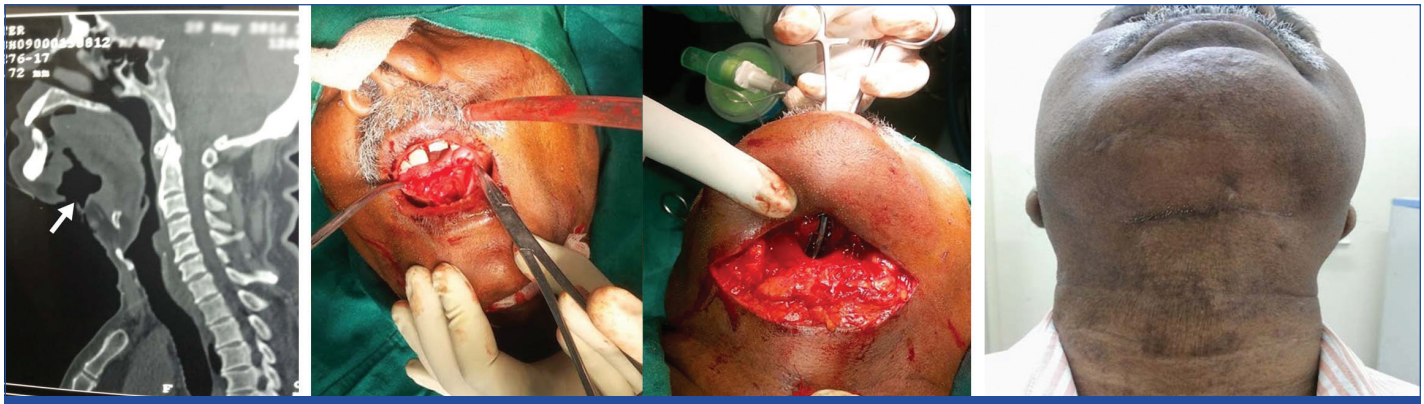
[Table/Fig-1]: Case 1: Preoperative image showing laceration in soft palate.
[Table/Fig-2]: Postoperative image after layered suturing. (Images from left to right).

with intravenous antibiotics, analgesics and other supportive measures. The child was taking oral feeds, symptomatically better and discharged after two days of surgery. The child was reviewed after one week and sutured site was healed and patient is still on follow-up.

Case 2

A 62-year-old male came to the Emergency Department with alleged history of trauma due to hit by a bull while riding two wheeler. Patient complaint of pain and bleeding at the traumatic site and pain during swallowing. There was no history of breathing difficulty, stridor or change in voice. There was no history of aspiration, regurgitation of food or water, dysphagia. There was no history of injury to other sites in the body. Patient vitals were monitored and was normal.

Oral cavity and oropharynx examination revealed that, patient had deep horizontal laceration about 5-6 cm in the submental region and other laceration in the floor of the mouth and on the ventral surface of tongue. Patient was subjected to Computed Tomography (CT) scan of head and neck, showed the laceration with the size of 6×3 cm extending from submental region to the floor of mouth [Table/Fig-3]. Necessary blood investigations for anaesthetic fitness was done which showed that haemoglobin was 13.2 gram/dL, platelet count was 3.08 lacs/cumm, total



[Table/Fig-3]: Case 2: Computed tomography image showing submental laceration extending to the floor of mouth. **[Table/Fig-4]:** Preoperative image showing laceration extending from submental region to floor of mouth. **[Table/Fig-5]:** Postoperative image. (Images from left to right).

white blood cells count was 9,600 cells/cumm, bleeding time was 2 minutes 30 seconds, clotting time was 4 minutes 30 seconds, random blood sugar was 116 mg/dL, chest X-ray and electrocardiogram was normal.

Under general anaesthesia, nasotracheal intubation was done. Both lacerated wound were thoroughly washed with saline and metronidazole. A horizontal laceration in the submental region about 5-6 cm was deep enough extending till the floor of mouth and the laceration was extending to the ventral surface of tongue in the midline till the tip [Table/Fig-4]. Dorsal surface of tongue and rest of the oral cavity appeared normal. In the neck, the mylohyoid muscle identified and approximated with 3-0 vicryl suture and the wound was closed, at last skin was closed with 3-0 ethilon suture. Intraorally floor of mouth and tongue laceration was sutured with 3-0 vicryl suture. Patient tolerated the procedure well and was stable.

Postoperatively patient was on intravenous ceftriaxone and dexamethasone for three days following which he has been discharged with oral antibiotics for one week. Periodic follow-up weekly for one month and monthly for six months was done. Six months postoperatively, the laceration site both in neck and oral cavity healed completely [Table/Fig-5].

DISCUSSION

The current study reported two cases of bull gore injury to the oropharynx. One case was of female child, who had perforation of right-side of the soft palate with tear of tensor veli palatine muscle. Second case was adult male, who had two lacerations in the oropharynx both the patients were treated.

Pandey S et al., reported a case of bull gore injury to soft palate laceration of size 5×1 cm and repaired in layers while the current study presented a soft palate injury, and submental caused by bull gore injury, and repaired in layers [1]. Radkowski D et al., studied 77 patients with penetrating trauma to the oropharynx and focussed on identification of neurological problem, carotid artery injury and patients were treated with surgical debridement or palatal repair [2]. The current study showed the soft palate laceration managed with repair in layers without any complications. Randall DA and Kang D, reported 32 cases of penetrating injuries to soft palate with low chances of carotid artery injury and suggested laceration repair [3].

Bull gore injuries are frequently documented in the literature. Because of their involvement in agricultural activities and the rearing of animals such as cows, buffaloes, and bulls, it is more common in rural populations [1]. Abdomen, chest, perineum, back, eye, and other areas of the body are more susceptible to bull gore injuries [4,5]. Isolated palatal injuries are usually seen in soft palate region are penetrating type and commonly caused by objects like pen, pencil, wooden stick, pipe, straw etc [2]. The injury is usually produced by the animal's protruding horn. Penetrating wounds are common as a result of the damage. Contamination and the impaction of extraneous bodies such as clothes or horn chips are linked to the injuries [6]. Small lacerations that heal with secondary intervention to big wounds that necessitate an immediate major surgical treatment are examples of injuries. Chest trauma, pneumothorax, haemothorax, diaphragmatic hernia, blunt trauma abdomen leading to splenic or liver laceration, bleeding, shock, and other life-threatening disorders have all been reported [7,8].

Due to habits of placing objects in the mouth such as pens, pencils, toys, twigs, straws, pipes, and so on, palatal injuries are more common in children. Accidentally shoving items into the mouth or falling down while the object is in the mouth cause injury. The soft palate is frequently affected. Buccal mucosa, tonsillar pillars, oropharyngeal region, and other areas of the throat may be affected [7]. The first example in this current scenario required multilayer suturing of the laceration while under general anaesthesia. Mucosal lacerations usually heal on their own, but those involving the muscle layer require special attention. If this is not done, it can develop to velopharyngeal insufficiency, which can lead to aspiration, regurgitation, and other problems. In second case, multilayer repair was performed in the floor of the mouth and neck, resulting in adequate wound healing.

CONCLUSION(S)

Bull gore injuries are one of the common injuries in the rural population. These injuries varies from minor to major life threatening injuries. The complete exploration of wound, thorough wound washing, timely repair and adequate antibiotic coverage helps in complete healing of wound and prevention of complications. The wound involving muscle should be repaired in the layers, otherwise a fistulous track between the oral cavity and neck can be formed.

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