J Oral Med Oral Surg 2020;26:38
https://doi.org/10.1051/mbcb/2020035

https://www.jomos.org

JOMOS
Journal of Oral Medicine and Oral Surgery

Short Case Report

Soft palatal wound associated with dental avulsion: an exceptional consequence of a bovine horn blow in children

Eric Kouassi Zegbeh-N'guessan[1,*], Rokiatou Koné[1], Ernest Martial Djémi[1], Pornan Issa Jules Bérété[1], Gohi bi Serge Irié[2], Gréberet Emmanuel Crézoit[1]

[1] Département of Odontostomatology and Maxillofacial Surgery, Bouaké University Hospital, Bouaké, Ivory Coast, Côte d'Ivoire
[2] Département of Anesthesia and Resuscitation, Bouaké University Hospital, Bouaké, Ivory Coast, Côte d'Ivoire

(Received: 1 June 2020, accepted: 19 July 2020)

Keywords:
palate-tooth-horn

Abstract – Introduction: Palatal wounds in children as a result of a bovine horn blow have rarely been observed in adults and almost never in children. They are serious and can lead to fatal complications. Dental injuries by bovine horn are also rare. **Observation:** This study presents the unpublished case of an 11-year-old child who developed a soft palate penetrating wound associated with traumatic loss of the lower incisors as a result of a bovine horn blow. The surgical outcomes were positive. **Comment:** This type of childly bovine trauma is common in rural African agricultural areas. Dental trauma probably served as a mitigator to the soft palate trauma thus avoiding an associated injury of the hard palate and a contusion of the internal carotid artery. Although, there is a consensus among practitioners on leaving palate wounds to heal spontaneously, we chose a debridement and a suture because of the severity of the wound and the potential risk of turning into an oral-nasal fistula. **Conclusion:** The potential severity of palate and dental damage from bovine horns should lead to dehorning of cattle for better protection of children in rural agriculture.

Observation

An 11-year-old male patient, 130 centimetres tall, was admitted for maxillofacial trauma following a bovine assault. He was reportedly struck in the mouth by a horn during the agricultural work. Parents reported no initial loss of consciousness but rather a stomatorragia that subsided approximately 1 hour after the trauma. Upon admission, he was conscious with blood pressure at 110/70 mmHg and a pulse at 90 beat/minute. The clinical examination revealed a traumatic dental avulsion of the lower incisors (Fig. 1), a soft palate wound covered by a blood clot. No neurological deficit was found. The posteroanterior reverse-Town view showed the absence of residual root of the lower incisors and the absence of a fracture of the mandible. Surgical exploration under general anesthesia revealed a transfixant wound of the left half of soft palate through which visualized the cavum whose posterior wall was intact. The uvula was also intact (Fig. 2). Then, a debridement and suture of the soft palate wound in two planes was carried out (Fig. 3). A parenteral probabilistic antibiotic therapy, based on amoxicillin clavulanic acid (1500 mg/day divided into three intakes) was performed. An anti-tetanus serum was injected. The post-operative wound healed after 13 days (Fig. 4).

Comment

This patient was the first case of palate wound among 23 cases of pediatric maxillofacial horn injuries observed in the facility where the patient was cared for. Most of the palatal wounds observed in the literature simultaneously concerned the hard and soft palates. Cases of traumatic dental avulsions are also very rare [1]. An association of soft palate and dental damage by bovine horn is an exclusivity. Other cases of cranio-facial bull horn injury have already been described in rural northern Côte d'Ivoire [2]. In this context, children are often tasked to guide cattle used for agricultural works. Children, often familiar to these domestic and docile beasts, are often caught by surprise or accidentally. This situation also poses problems of parental responsibility [2]. The palatal wound occurred in this child's case probably because of his small size (130 cm) which would correspond to the height of the animal's head. The location of the injury varies depending on the height

* Correspondence: zndes@yahoo.fr

Fig. 1. Absence of lower incisors 7 days after traumatic avulsion.

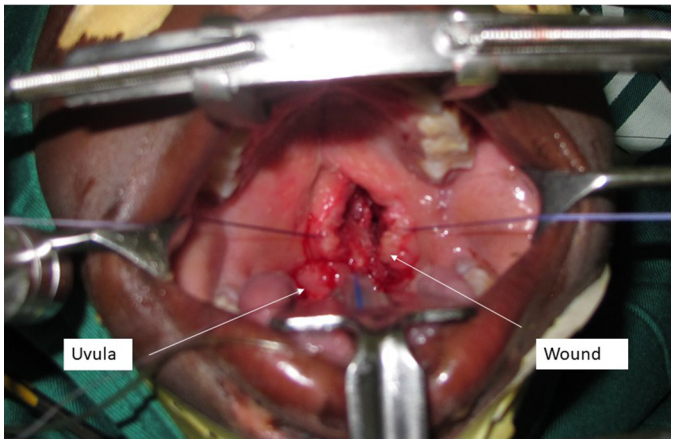

Fig. 2. Transfixiant wound of left half of the soft palate.

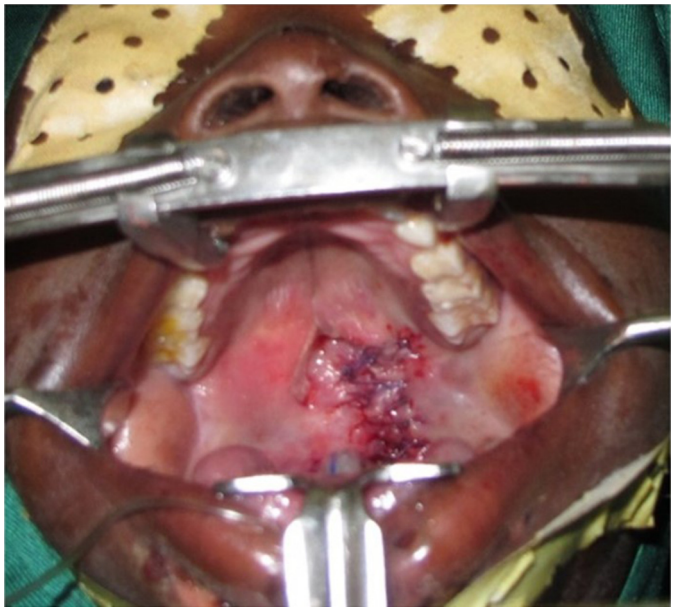

Fig. 3. Soft palate wound sutured after debridement.

Fig. 4. Soft palate wound healed.

of the victim, the height of the bull and the relative position of the animal [2]. It is also likely that the victim received the blow of the horn first on the lower incisors thus constituting a kind of shock absorber and initiating a propulsion of the victim backwards. It is known that in the movement of the charge, the bull flexes the neck and then extends it, inserting one or both horns into the body of his opponent [2]. The animal's horn caused only one injury to the soft palate. The propulsion movement initiated by the dental trauma would have helped the child move away and free himself from the horn before it reached the hard palate or created a contusion of the internal carotid [3]. Post-traumatic thrombosis of the internal carotid is a daunting neurological complication that was exclusively due to soft palate lesions in the Agrawal and Sudhakar study [4]. Bovine horn wounds are characterized by septicity and contusion [4]. These factors are likely conducive to post-operative infections [3]. This justifies routine antibiotic therapy. According to Agrawal and Sudhakar, there is a consensus to allow palatal wounds to heal spontaneously [4]. However, surgical exploration allows the extraction of a possible foreign object. Moreover, if a large wound is not sutured properly, there is the risk of anatomical defects such as oral fistulas requiring further surgical treatment [4].

References

1. Bhoil R, Bramta M, Rohit Bhoil R. Bull horn injury causing traumatic tooth intrusion–ultrasound and CT imaging. Afr J Emerg Med 2020;10:99–102.

2. Yao KS, Zégbéh NEK, Dérou LA, Topka AJV, Broalet E, Ory DMAO, *et al*. Plaie cranio encéphalique par "encornage" chez l'enfant, à propos d'un cas au CHU de Bouaké. Revue internationale du Collège d'Odonto-Stomatolgie Africain et de Chirurgie Maxillo-Faciale. 2019;26:54–58.
3. Licéaga R, Vinitzky I. Intraoral bull horn injury. Arch Orofac Sci 2014;9:101–104.
4. Agrawal K, Sudhakar PV. Impalement injuries of the palate in children. Eur J Plast Surg 1994;17:87–90.