

Contents lists available at [ScienceDirect](http://www.sciencedirect.com)

International Journal of Surgery Case Reports

journal homepage: www.casereports.com

Management of parotid duct injury secondary to cow horn in a developing country



Hady Tall^{a,*}, Charles Edouard Molinier^b, Ahmed Alshamsi^b, El Hadj Malick Diop^c, Bernard Fraysse^b

^a Service ORL du Centre Hospitalier Régional de Saint Louis, Senegal

^b Service ORL du Centre Hospitalier Université Purpan Toulouse, France

^c Service ORL du Centre Hospitalier de Fann, Senegal

ARTICLE INFO

Article history:

Received 22 March 2017

Received in revised form 22 May 2017

Accepted 22 May 2017

Available online 31 May 2017

Keywords:

Parotid duct

Injuries

Cow horn

ABSTRACT

Stensen duct injury has been reported in the medical literature following penetrating injuries of the cheek or by exeresis of tumors of the cheek or of the oral mucosa. This type of physical trauma often arises from injuries as a result being assaulted (e.g. with knife) or from road accidents. The complexity of the damage to the anatomical structures and the causative agent sometimes makes the diagnosis difficult. We report on a clinical case of management Stensen duct injury secondary of goring by a cow horn.

© 2017 The Authors. Published by Elsevier Ltd on behalf of IJS Publishing Group Ltd. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

1. Introduction

Stensen duct injury (or Stensen duct) has been reported in the medical literature following penetrating injuries of the cheek or by exeresis of tumors of the cheeks. We report a clinical case of severing of the Stensen duct by a cow horn. The diagnosis and the treatment were carried out at the Regional Hospital Center of Kolda in Senegal.

2. Clinical observation

An eight year old patient consulted in regard to saliva flowing from their left cheek that increased during meals. Perusal of their medical history revealed trauma to the left cheek 10 months prior by a cow horn. They had received cutaneous stitches at the healthcare facility of their village. The child insisted on an ENT consultation in light of unkind comments made by their classmates that affected their scholastic performance. The clinical examination noted a scar on the left cheek, saliva seeping from the left cheek, and that while the orifice of the right Stenson duct was normal the left one was shut. The severing of the Stenson duct was classified as type C based on the criteria of Van Sickels and Alexander [1]. Palpation of the cheek with between two fingers did not find any mass indicative of a mucocele. Chewing of gum allowed us to make

a diagnosis (Fig. 1). The remainder of the ear-nose-throat examination yielded normal findings. A treatment based on antibiotics was implemented and an indication for surgery was discussed. A reimplantation of the severed duct was performed under general anesthesia with orotracheal intubation. The duct was located by external catheterization (22 gauge catheter) and dissection around the cutaneous fistula (Fig. 2). Once the remaining duct was located, a marsupialization was created to reimplant the Stenson duct in the oral cavity. We then proceeded with the mucosal and cutaneous closure on both sides of the surgical site. The post-operative monitoring was straightforward at D8 (Fig. 3) and at one month (Fig. 4).

3. Discussion

Severing of just the Stenson duct is rare [2]. A delay in its diagnosis is common, as was the case here. Trauma is the most commonly reported mechanism in the literature [1,3,4]. With a pediatric population, being gored by a horn often involves injury to the face. Various diagnostic methods are available (e.g. injection of methylene blue, scialoscopy, and imaging by magnetic resonance). Treatment most often involves surgery. Various materials have been reported for locating the Stenson duct [4–7]. In our setting, the choice of an intravenous catheter had the advantage of being available and of being less onerous.

* Corresponding author: Service ORL CHR Saint Louis (Sénégal), 32002 Saint Louis, B.P: 401, United States.

E-mail address: dyhatall@yahoo.fr (H. Tall).



Fig. 1. Photography of the left cheek: diagnosis by salivary flow upon chewing of gum.



Fig. 3. Postoperative photograph at D8: dressing after the chewing gum test.



Fig. 2. Perioperative photograph: location of the Stenon duct with a 22 gauge venous catheter.

4. Conclusion

Penetrating injuries to the cheek expose important structures such as the Stenon duct. The diagnosis must be made early for a timely treatment. Yet these lesions are often not found until later due to the numerous diagnostic means that are available. The complexity of the afflicted anatomical structures and the causative agent explain the variety of surgical techniques that are used. In our case, a treatment with straightforward diagnostic means allowed good esthetic and functional outcomes to be obtained.

Conflicts of interest

Any competing conflict interest.



Fig. 4. Postoperative photograph at one month: healing achieved.

Funding

Nil.

Ethical approval

This study has approved by the ethic comity of Kolda hospital (Senegal).

Consent

Consent wrote and signed to publish this case report(father).

Author contributions

Hady Tall, Molinier Charles Edouard and Alshamsi Ahmed conceptualized the project and participated in data analysis and drafting the manuscript.

Diop El Hadj Malick and Fraysse Bernard participated to the correction of the manuscript.

Guarantor

All authors read and approved the final manuscript.

References

- [1] J.E. Van Sickels, M. Alaxander John, W.V.A. Morgantown, V.A. Richmond, Parotid duct injuries, *Oral Surg. Oral Med. Oral Pathol.* 52 (October (4)) (1981) 364–367.
- [2] A.A. Lewkowicz, O. Hasson, O. Nahlieli, Traumatic injuries to the parotid gland and duct, *J. Oral Maxillofac. Surg.* 60 (June (6)) (2002) 676–680.
- [3] A.A. Lewkowicz, O. Hasson, O. Nahlieli, Traumatic injuries to the parotid gland and duct, *J Oral Maxillofac Surg* 60 (2002) 676–680, *Pathol Oral Radiol Endod* 2005; 99: 136-141.
- [4] Mallory Highstein, Tristan Tham, Prabhjyot Singh, Peter Costantino, Parotid Duct Injury Secondary to Shark Bite Injury: Repair with a Crawford Stent, *JPRAS Open* (2016), <http://dx.doi.org/10.1016/j.jptra.2016.09.001>.
- [5] M. Highstein, T. Tham, P. Singh, P. Costantino, Parotid duct injury secondary to shark bite injury: Repair with a Crawford stent, *JPRAS Open* 10 (2016) 28–32.
- [6] Suha N. Aloosi, Najmaddin Khoshnaw, Shakhawan M. Ali, Belal A. Muhammad, Surgical management of Stenson's duct injury by using double J stent urethral catheter, *Int. J. Surg. Case Rep.* 17 (2015) 75–78.
- [7] S. Sujeeth, S. Dindawar, Parotid duct repair using an epidural catheter, *Int. J. Oral Maxillofac. Surg.* 40 (July (7)) (2011) 747–748.

Open Access

This article is published Open Access at scimedirect.com. It is distributed under the [IJSCR Supplemental terms and conditions](#), which permits unrestricted non commercial use, distribution, and reproduction in any medium, provided the original authors and source are credited.