

Reconstruction of the Parotid Duct

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Abstract

The most common causes of parotid duct lesions are injuries with sharp instruments. Late alterations after such lesions lead to esthetic defects and complicates the treatment. This case report presents an alternative surgical technique for late reparation of the parotid duct. A 31-year-old male patient was admitted with a history of physical aggression by a glass bottle, resulting in cutting injuries in face and drainage of extraoral transparent fluid from the buccinatory region lesion. Antibiotic therapy was initiated immediately, and the surgery was performed nine days after the incident. The repair of the parotid duct lesion was achieved adapting a venous catheter that was passed through the distal portion of the duct from the oral orifice. The proximal segment of the duct was cannulated, the lacerated ends of the duct were approximated on the device and sutured with prolipopylene thread. At the 14-day post-operative return, the saliva was draining through the catheter, and then it was removed. Patients with cutaneous lesions in the buccinatory region require a thorough examination to identify injuries to the parotid duct. The surgical treatment using the presented alternative surgical technique was an effective and cheaper option when compared to other alternatives and showed no complications.

Keywords: Anastomosis, injury, parotid gland

INTRODUCTION

In most individuals, the parotid duct follows the masseter, perforates the buccinator, and emerges in the buccal mucosa, near the second upper molar.^[1]

The most common causes of parotid duct lesions are injuries with sharp instruments. To prevent complications, early surgical repair is indicated.^[2]

Late alterations after ductal injuries such as fistulas lead to esthetic defects^[3] and complicate the treatment.^[4]

Although some techniques to perform anastomosis of the duct have been described previously,^[5-7] this case report presents an alternative surgical technique for repairing the parotid duct after 9 days of trauma.

CASE REPORT

A 31-year-old male patient was admitted to the First Aid Hospital of the Municipality of Cuiabá 7 days after trauma, with a history of physical aggression by a glass bottle, resulting in cutting injuries in the face.

Physical examination showed lacerations in the buccinatory, mentonian, and left suprahyoid region, showing drainage

of extraoral transparent fluid from the buccinatory region lesion [Figure 1]. The patient also presented with oral opening limitation. Antibiotic therapy was initiated immediately and the surgery was scheduled after the preanesthetic assessment.

After 9 days of the trauma, surgery was performed under general anesthesia with orotracheal intubation. The repair was achieved adapting an accessory that has the purpose of performing peripheral venous access [Figure 2]. The catheter was passed through the distal portion of the duct from the oral orifice. The proximal segment of the duct was cannulated [Figure 3], and the lacerated ends of the duct were approximated on the device and sutured with polypropylene thread [Figure 4].

The wound was closed in layers, with the closure of the gland capsule. The catheter was sutured to the buccal mucosa, and an external compressive dressing was applied. During the postoperative period, intravenous antibiotic therapy was performed, and no anti-inflammatory drug was used.

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How to cite this article: Medeiros Paz AL, Caetano RD, Borges AH, Ricci Volpato LE. Reconstruction of the parotid duct. *Ann Maxillofac Surg* 2018;8:140-2.

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10.4103/ams.ams_24_18



Figure 1: Left side lateral view showing drainage of transparent aqueous fluid by wound in the buccinatory region



Figure 2: Device originally used to perform peripheral venous access



Figure 3: Maneuver showing cannulation of the distal portion of the parotid duct

The device was left in place for 14 days. At the 14-day postoperative return, the saliva was draining through the catheter [Figure 5], and extraoral wound was healed [Figure 6], so the catheter was removed. The patient was followed up for 30 days without complications.

DISCUSSION

Wounds in the parotid region can cause damage to the glandular parenchyma, parotid duct, and facial nerve. These injuries should be diagnosed and treated immediately.^[5]

The management of these lesions is still controversial and has few clinical studies. Surgical and nonsurgical treatments have been suggested.^[6] However, lesions in this region should be treated promptly,^[4] thus avoiding late complications.^[3] Although in the presented case the parotid duct lesion was treated only nine days after the trauma, a good postoperative evolution was obtained, without apparent complications.

Surgical treatments include duct anastomosis with approximation using a catheter. In cases where there is significant tissue loss, the alternative is to create a fistula from the distal portion into the oral cavity or to use a graft of blood vessel. However, if the duct anastomosis is not possible, remains the alternative of ligating the duct, inactivating its function and consequently causing parotid gland atrophy.^[6]

Anastomosis may be performed with devices used for other purposes, such as the epidural catheter^[5] or endotracheal tube

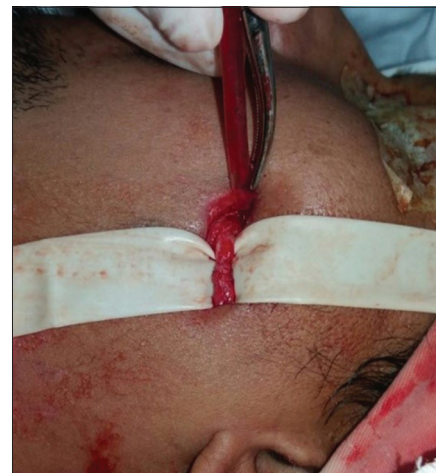


Figure 4: Duct anastomosis

cuff insufflation cannula.^[7] In this report, the used device's original purpose is to perform peripheral venous access, and it has proved to be an effective and cheaper option when compared to other alternatives.

Conservative, i.e. nonsurgical, treatment was advocated by some authors,^[8] but it is generally not recommended, as there may be tissue loss, parotid duct laceration, resulting in sialocele, and salivary fistula, which are potential causes for infections.^[3]

Currently, the use of botulinum toxin has also been documented. It is used through injections directly on the parotid gland presenting good results.^[5,6,9] Due to the presence of fluid drainage through the wound in the buccinatory region and already having more than 7 days of evolution, the executed surgical treatment was recommended due to its higher success rates.

CONCLUSION

Patients with cutaneous lesions in the buccinatory region require a thorough examination to identify injuries to the

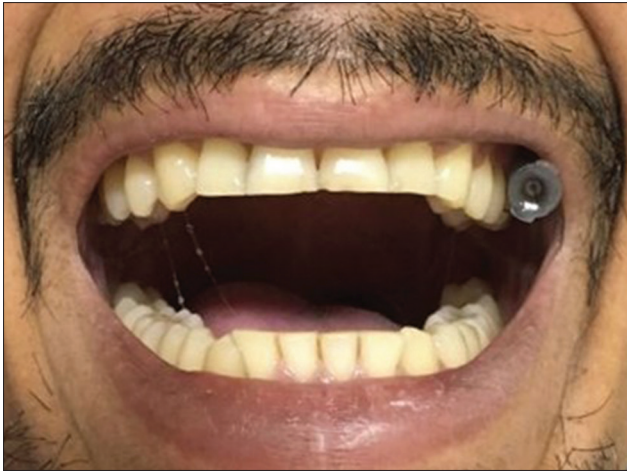


Figure 5: Catheter with ductal patency after 14 days of PO

parotid duct. When it is present, appropriate therapy should be instituted immediately. Surgical treatment using the presented alternative surgical technique for anastomosis of the parotid duct was an effective and cheaper option when compared to other alternatives and showed no complications.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.



Figure 6: Extraoral healing after 14 days of PO

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