

Posttraumatic Parotid Fistula Treated With Conservative Therapy: A Case Report

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ABSTRACT

Parotid fistula is a rare complication following surgery of parotid gland and temporomandibular joint. This is an extremely unpleasant and painful condition for the patient. Various treatment modalities, conservative and aggressive surgical procedures have been documented in literature to treat this condition with varying results. In this paper we present the case of a 30yr old man with a diagnosis of posttraumatic parotid fistula treated using conservative method by aspiration and pressure dressings and antisialagogue therapy only. The recovery was totally uneventful during follow-up period.

KEYWORDS: Anti-sialagogue Therapy, Parotid fistula, Trauma

INTRODUCTION

A parotid fistula is a communication between the skin and a salivary duct or gland, through which saliva is discharged.¹ Fistulas of the parotid gland are uncommon and result from either ductal or parenchymal injury. Most frequent aetiologies of parotid fistulae are postoperative complication after parotid gland surgery and accidental trauma.² Early detection of injury and prompt treatment are important since fistulas may cause discomfort as well as wound dehiscence and infection.³ Although there is consensus in the literature that acute parotid injury must be explored primarily and all injured structures should be repaired accurately. Treatment of chronic parotid fistulae is controversial. Numerous methods of treatment ranging from conservative to aggressive have been described with varying success and morbidity.⁴

Management options include pressure dressings and use of antisialagogue, total parotidectomy, tympanic neurectomy, intraoral transposition of parotid duct, radiation therapy, use of botulinum toxin A, and use of fibrin glue.⁵⁻¹²

In this paper we treated a patient of posttraumatic parotid fistula using simple but effective method of aspiration with pressure dressings and antisialagogue therapy.

CASE REPORT

A 30-year-old male patient reported to us with a deep wound on the left side of cheek region. The wound was about 5 cm in length. The patient gave a history of hitting with a sharp weapon by someone. The patient also showed signs of left side facial nerve injury (Fig No.1). He was not able to completely close eye from left side. The wound was then thoroughly

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cleaned and sutured. He was given all the instructions regarding protection of left eye and steroid therapy was started for facial palsy which tapered off over a week period. After 7 days of the trauma the patient presented with a swelling of left side of cheek region (Fig No. 2, 3) and complained of continuous discharge of colourless and odourless fluid from the wound, which increased after food intake..



Fig No.1: Patient Showing Signs of Left Facial Nerve Injury



Fig No.2: Frontal View of Parotid Swelling

On clinical examination, a 2 mm orifice discharging a clear serous secretion was present on the lower side of wound (Fig No.4). A diagnosis of posttraumatic parotid fistula was made. The patient was advised to limit oral intake for a week in order to reduce salivary output. The pressure dressing was applied after the aspiration along with anti-sialagogue and antibiotics. The anti-sialagogue used was

proprantheline bromide in a dose 15 mg PO q.i.d. half an hour prior to meals for 5 days. The drug inhibits the action of acetylcholine at the postganglionic nerve endings of the parasympathetic nervous system. The pressure dressing after aspiration was applied for 5 days. Initially during 3 days of treatment, the patient reported significant reduction in salivary discharge from the fistula and after 5 days it was observed that the fistula was completely healed with no discharge present. The treatment was well tolerated and the patient reported only a mild dryness of the mouth in the last 2 days of treatment. No recurrence was observed during a 3 months follow-up. The patient was able to close the left eye completely during follow up period.



Fig No.3: Lateral view of parotid swelling



Fig No 4: Parotid Fistula with Discharge Present

DISCUSSION

Posttraumatic salivary fistulas are often consequent to face's trauma in the course of road accidents where penetrating injuries are associated to the presence of broken glasses. Formation of a salivary fistula following a penetrating injury, after a lesion of glandular parenchyma, can occur early or late in relation to a traumatic event.^{2,13} Although there is consensus in the literature that acute parotid injury must be explored primarily and all injured structures be accurately repaired, in many cases the salivary fistula is not recognized at time of admission because of coexistence of a bleeding skin wound.¹⁴ The management of parotid fistulae and sialocele has been controversial. The surgical techniques can be classified as those that divert parotid secretions into the mouth and those that depress parotid secretion either by ductal ligation or nerve sectioning. Conservative approaches include depressing secretions by antisialagogues or radiotherapy.⁵ The major problem with techniques attempting to divert secretions into mouth with reconstructive surgery has been the difficulty in identifying the proximal duct in the extensive scarring that forms around the fistula with its associated significant risk of damage to the facial nerve.² Parotidectomy, tympanic neurectomy,⁶ low-dose radiotherapy,⁸ pressure dressings, antisialagogue therapy,⁵ hypertonic saline sclerotherapy,¹⁵ fibrin glue¹² and now a days botulinum toxin A⁹⁻¹¹ has been used for the treatment of this condition with varying success.

The pathophysiology of healing of parotid fistulas has been well described by Arulpragasam.¹⁴ The growth of granulating tissue heals the leaking acini and ducts. The secretion of saliva, like during meals, counteracts the healing process. The opening of the fistula usually becomes coated with

epithelium, further contributing to preventing fistula closure. Therefore, when amount of saliva secretion is suppressed, healing occurs more easily and rapidly. For this reason therapeutic approaches that reduce salivary production with the use of antisialagogue are recommended as first line treatment.^{2,3,9,16} Pressure dressings lead to atrophy of the gland as the lobules of the gland are contained in relatively inelastic capsule. Sustained rise in ductal pressure leads to compression of capillaries and veins, in turn, resulting in decrease in secretion and atrophy of gland.⁵ In our case we used this conservative method of pressure dressing after aspiration and antisialagogue, propantheline bromide in a dose 15 mg PO q.i.d. half an hour prior to meals for 5 days⁴ and we were able to completely close the parotid fistula using this simple technique.

Undesirable side effects are also associated with high peak serum levels following oral or parenteral administration of anticholinergics (e.g. drowsiness, blurred vision, sedation, confusion, nausea and vomiting, urinary retention, and xerostomia), which have precluded their utilization.¹⁷⁻¹⁹ But in our case patient reported only mild dryness of mouth during last 2 days. Our experience suggests that the use of pressure dressings with aspiration and propantheline bromide as antisialagogue can be a cost effective, conservative and a safe strategy for the treatment of posttraumatic parotid fistulas.

CONCLUSION

Aspiration with pressure dressings and antisialagogue therapy together can be used for the purpose of fistula closure because it is cost effective, safe, easily available, non-toxic and non-irritant to the surrounding structures and serves the purpose of causing fibrosis of gland parenchyma and spontaneous closure of fistula with no complications.

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