

Management of Parotid Fistula/Sinus with Sodium Tetradecyl Sulfate

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Abstract: A parotid fistula is a rare, but extremely unpleasant disease. It may be due to chronic pathologies of the facial soft tissues, trauma (tangential injury to face), infection or congenital. Various treatment modalities are surgical and conservative management to treat this disease. Conservative management plays a vital role in patients who are systemically compromised and unfit for surgery. In the present case report an alternative conservative technique of parotid fistula management has been described in a 16- year-old girl who presented with parotid fistula since childhood. She was treated with sodium tetradecyl sulfate which is a novel sclerosing agent without any complication and recurrence till date.

Keywords: Parotid fistula, Sclerosing agent, Sodium tetradecyl sulfate.

INTRODUCTION

Parotid fistula is rare sequelae of various diseases. It consists of a communication between the salivary gland or duct and the skin, through which saliva is discharged.¹ Various causes of parotid injury are rupture of parotid abscess, inadvertent incision of parotid abscess, complication of superficial parotidectomy, tangential gunshot wounds and trauma. Injury to the parotid duct is difficult to diagnose and may lead to salivary fistula formation which will not heal spontaneously because of continuous flow of saliva. In glandular fistulas discharge is less and tends to heal spontaneously with conservative treatment, whereas ductal fistulas continuously discharge saliva and spontaneous healing is very rare.

Examination of parotid injuries should include assessment of location, size, shape, type (e.g., puncture, laceration, avulsion, crush, and abrasion), asymmetry, drainage (i.e., quality, character, and odor), tenderness, surrounding erythema, edema, cellulitis. In literature there is no controversy in acute parotid fistula repair but the treatment of chronic fistula is dogmatic.² Many methods of repair have been suggested, conservative as well as aggressive which are associated with varying degree of success and morbidity. Management options include pressure dressings and use of anti-sialagogues,³ total parotidectomy, tympanic neurectomy,⁴ intraoral transposition of parotid duct,⁵ radiation therapy,⁶ use of botulinum toxin A,^{7,8} and use of fibrin glue and other sclerosing agent. In present case effectiveness of sclerosing agent (sodium tetradecyl sulfate) has been evaluated for treating this disease.

CASE REPORT

A patient sixteen years female presented to surgery with complaint of watery discharge in infra auricular parotid region right side since childhood. There was no history of purulent or haemorrhagic discharge from the opening. No history suggestive of trismus, swelling, trauma or pain at the site of discharge. No history of fever and mumps in childhood. There was no history of increased discharge with mastication. No history of previous surgery. There was no history of tuberculosis, dental caries or any other chronic disease like diabetes mellitus, hypertension, bronchial asthma etc. The patient achieved menarche at age of 14 years and has normal menstrual cycles.

On local examination, single opening was present in infra-auricular parotid region lateral and inferior to angle of mandible. Skin scarring was present around opening. Thin watery discharge was present from opening. fig. No local tenderness or erythema was noticed. There was no trismus. Intraoral examination was normal. Bilateral ear examination was normal. No increase in amount of discharge on mastication.

After thorough history and physical examination provisional diagnosis of parotid fistula was made. Routine blood examination was normal (Hb.-9.5, TLC-11,000, B. sugar- 111, CXR-normal). Ultrasonography of neck was suggestive of multiple intraparotid lymph nodes. An MRI was done which showed a track leading from skin to posterior part of right parotid posterior to retromandibular region Imp with multiple lymph node present in Rt. Side cervical region and parotid.

Patient was planned for conservative management. Firstly a trial of Tab. Glycopyrrolate 0.1 mg 1 tab B.D. started for 1 week but with no relief. Then patient was considered for sclerotherapy. A written and informed consent was taken with explained risk involved. Parts cleaned and draped local anesthesia infiltrated at the site of opening and Inj. Sodium tetradecyl sulphate diluted 1:1 injected 2 ml half in tract and half around opening fig. 2. Patient was called on follow up at day 3,7,15, one month and two month. Patient developed mild erythema at inj. Site for which no further treatment given and erythema resolved by itself after 7 days. There was no further discharge from opening site after single injection upto one year of follow-up.



Figure 1: discharging fistula



Figure 2: technique of injection

DISCUSSION

Salivary fistula is a rare disease which can be congenital or may be a complication following trauma or facial surgery in the parotid region.¹ Surgical and conservative techniques are two treatment modalities. Surgically nerve section may lead to facial palsy or post surgical morbidity. Low dose radiotherapy is supposed to be significant method since it reduces the salivary flow but long term ill effects of radiotherapy decline the use this method.⁷ Some duct fistula and glandular fistula are treated by tympanic neurectomy but in some cases it causes suppression of parasympathetic system activity.⁵ Antisialogogues like anti cholinergic drugs, if used alone may cause some side effects so these are not also reliable method for reducing secretion. Conservative treatment, consisting of botulinum toxin A injections, are useful but these are given repeatedly and remission of fistula are high, cost is also limiting factor.

We used sodium tetradecyl sulfate as a sclerosing agent. It acts by detergent action which produces endothelial damage through interference with cell surface lipids. Strong detergents, such as sodium tetradecyl sulfate produce maceration of the endothelium within one second of exposure. The intercellular "cement" is disrupted, causing desquamation of endothelial cells in plaques. Because the hydrophilic and hydrophobic poles of the detergent molecule orient themselves so that the polar hydrophilic part is within the water and the hydrophobic part is away from the water, they appear as aggregates in solution (micelles) or fixed onto the endothelial surface. It is also fruitful in treating varicose vein, hemangioma and telangiectasias. We have achieved more stable and earlier results than other conservative techniques using sodium tetradecyl sulfate in treating parotid fistula.

CONCLUSION

The use of sodium tetradecyl sulphate in parotid fistula closure shows a promising result but as this disease is a rare disease so, multi-center trial with more cases is needed to prove the efficacy of this drug.

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