INTRODUCTION

Parotid fistula formation is a rare but much-feared complication of surgery of parotid gland and fossa. This complication results from the communication between skin and parotid gland and/or its duct. Surgery of parotid gland, e.g. superficial parotidectomy, surgery in the vicinity of parotid gland, temporomandibular joint, rupture or drainage of parotid abscess, penetrating injuries, maxillofacial fractures, mandibular osteotomy, tympanic neurectomy and use of external pin fixation, all may result in parotid fistula formation.1

Parotid fistula is characterized by either pouring of saliva through the wound or formation of a sialocele under the skin or as a neck mass. This fistula does not heal spontaneously because of the continuous secretion of saliva.1,2

Many management options are available for treating these fistulae. All are associated with different success rates and may be used alone or in combination. These include pressure dressing, use of anti-sialogogues, total parotidectomy, tympanic neurectomy, botulinum toxin A injection, hot hypertonic saline injection, intra-oral transposition of the parotid duct, radiation therapy and use of fibrin glue.3-5

This paper presents the authors’ experience with a simple but highly effective, affordable and patient-preferred method of treating the parotid fistula, combining hypertonic hot saline injection and pressure dressing.

ABSTRACT

Parotid fistula is a rare complication of surgical or non-surgical trauma on or in the vicinity of parotid gland. Many pharmacological agents and surgical methods are used to treat it with their own merits, demerits and patient preferences. Injection of hypertonic hot saline along with compression dressing is an economical, patient-preferred and almost complication-free method to deal parotid fistula with promising results.


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NEW TECHNIQUE

Combination of Hot-Hypertonic Saline and Pressure Dressing in the Management of Parotid Fistula

Aisha, Saira Fatima and Aijaz Ahmed Memon

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aspirate revealed clear pus and was sent for culture and sensitivity. Patient was started on broad-spectrum antibiotic and symptomatic treatment was given. The abscess burst spontaneously. Patient was kept on daily dressings. Within few days, the wound became pus-free but the wick started getting soaked with clear and odourless discharge, as the patient had developed parotid fistula. Same strategy was offered in the form of 5 ml of 3% hot saline injection and pressure dressing. This led to complete cessation of secretion and the wound became dry in seven sittings.

**Case 4:** Another young female, 26-year-old presented to the clinic with recurrent swelling of parotid. The Fine Needle Aspiration Cytology (FNAC) revealed benign cells, suggesting pleomorphic adenoma. A difficult surgery ended in pouring saliva from wound line on removal of stitches. She also received injections of 5 ml of 3% hot saline along with pressure dressings. On seventh day of injection, the wound was totally dry.

**Case 5:** Similar to above patients, a 45-year-old lady was referred to us for the management of occasional discharge from the operated site after one week of superficial parotidectomy. Examination revealed a boggy swelling below the pinna and when she was given a test meal, small bubbles of saliva came out through the wound line. Hot saline of 5 ml and pressure dressing were used in combination. Complete cessation was obtained on fifth sitting.

**DISCUSSION**

Management of parotid fistula is not only challenging for a surgeon but also controversial, too. Management includes both non-surgical and surgical options. Non-surgical options include pressure dressing, anti-sialogogues, radiotherapy, botulinum toxin A injection etc. Surgical techniques can be classified as those that depress the parotid secretion by nerve sectioning or those which remove the gland or divert secretion in mouth. Surgical techniques are demanding but may lead to another unacceptable complication, like facial nerve palsy. Long-term efficacy with radiotherapy and anti-sialogogues is questioned. Tympanic neurectomy appears to be an effective method of suppression of parotid secretion but, on some occasions, proves transient. Fibrin glue has been used recently but it is rendered inactive by the saliva so the results are not as much promising as previously thought of.

Pressure dressing is thought to promote pressure necrosis/atrophy of the gland. The sustained rise in the ductal pressure causes capillary/venous congestion/compression, ultimately leading to the decreased secretion.

Injection of hypertonic saline, e.g. 3% saline, has proven role as sclerosant in various conditions like varicose veins, venous malformations in the head and neck, and rectal prolapse in children. Hot hypertonic saline (e.g. 3% saline heated to 60°C) induces denaturation in the glandular cells, leading to fibrosis of the fistulous tract and gland. So, if pressure dressing and hot hypertonic saline are used in combination, the efficacy is increased.

We utilized this combination in 5 patients who presented with postsurgical parotid fistulae. Similarly, studies are present in the literature in small number, all showing successful results.

A study by Srinidhi and colleagues presented their experience with hot hypertonic saline in 3 patients with successful results. Similarly, Rao et al. presented their observations of 3 patients who had developed parotid fistulae from the trauma/surgeries in the vicinity of the parotid gland.

Chhabra et al. performed similar study in their patients with parotid fistulae. Their study comprised only 2 patients. They also concluded that hypertonic saline was an effective way of treating such fistulae.

We have presented our experience with 5 patients who had developed parotid fistulae after the surgery on or near the parotid gland. All patients were offered this modality after full counselling. None of our patients developed failure and were well satisfied with the procedure.

**CONCLUSION**

Combination of hot hypertonic saline injection and compression dressing is an economical yet very effective method of treating the parotid fistulae. It is well tolerated by the patients and is not associated with any significant complications.

**REFERENCES**


