



TMSS Medical College Journal

January 2017

**An Official Publication
of
TMSS Medical College, Bogra**

TMSS Medical College Journal

Vol. 8, No. 1, January 2017

An Official Publication of TMSS Medical College, Bogra, Bangladesh

Editorial Board

Chairman : Prof. Dr. Md. Abdus Shukur
 Editor in Chief : Prof. Dr. Md. Azfarul Habib
 Assistant Editor : Dr. Md. Abdul Mazid
 Advisory Editor : Prof. Dr. Moudud Hossain Alamgir
 Managing Editor: Dr. Md. Matiur Rahman

Members

Prof. Dr. Raghieb Ahsan
 Dr. ASM Barkatullah
 Prof. Dr. Md. Shahjahan Ali Sarker
 Prof. Dr. Anup Rahman Choudhury
 Prof. Dr. AKM Masudur Rahman
 Prof. Dr. AKM Ahsan Habib
 Dr. Chanchal Kumar Mondal
 Dr. Ibrahim Khalil

Advisory Board

Prof. Dr. Hosne-Ara Begum
 Prof. Dr. M Afzal Hossain
 Prof. Dr. AKM Ahsan Habib
 Prof. Dr. Md. Jawadul Haque
 Prof. Dr. Sayed Mainul Hasan
 Prof. Dr. Hafiza Arjuman
 Shahzadi Begum

Published by

Dr. Md. Abdul Mazid
 on behalf of the TMSS Medical College

Graphic Designer

Md. Sirajul Islam
 TMSS, Bogra

Printed by

TMSS Printing Press
 Bogra, Bangladesh
 e-mail: tmssprintingpress@gmail.com

The TMSS Medical College Journal is published two times a year, (January and July). It accepts original articles, review articles and case reports. While every effort is always made by the Editorial Board and the members of the Journal Committee to avoid inaccurate or misleading information appearing in the TMSS Medical College Journal, information within the individual article are the responsibility of its author(s). The TMSS Medical College Journal, its Editorial Board and Journal Committee accept no liability whatsoever for the consequences of any such inaccurate and misleading information, opinion or statement.

Address of Correspondence

Executive Editor
 TMSS Medical College Journal
 TMSS Medical College
 Rangpur Road
 Thengamara, Bogra, Bangladesh.
 Phone: 051-61830
 Fax : 051-61830
 e-mail: editortmcjournal@gmail.com
 Web: www.tmssmedicalcollege.com

Case Report

Warm hypertonic saline for management of parotid fistula: A case report.

Chowdhury AQ

Dr. Abdul Qayum chowdhury, Associate Professor, Department of Otolaryngology & Head- Neck Surgery Chattagram Maa o Shishu Hospital Medical college, Chittagong

Abstract

Parotid fistula is a very rare, unpleasant and painful complication following parotid abscess in the parotid region. Parotid fistula also may occur following surgery & Parotid injury. Numerous methods of treatment, conservative as well as aggressive, have been described with varying success and morbidity. This paper presents a simple but effective and conservative method of treating this complication with the use of hot hypertonic saline. Keywords: Hypertonic saline, parotid fistula, use of saline as sclerosing agent

Key words : Acne vulgaris, isotretinoin

Introduction

A parotid fistula is a rare and extremely unpleasant complication following Parotid abscess in the Parotid region. Parotid fistulae have been reported following secondary to drainage of parotid abscess, parotidectomy, surgery in the temporomandibular joint (TMJ) region and the incidence reported is as high as 14%. Other causes of parotid fistulae include mandibular osteotomy,¹⁻³ use of external pin fixation⁴ and as a complication of facial fractures.⁵

Although there is consensus in the literature that acute parotid injury must be explored primarily and all injured structures be repaired accurately, the treatment of the chronic injury is controversial. Numerous methods of treatment, conservative as well as aggressive, have been described with varying success and morbidity.

Management options include pressure dressings and use of antisialagogues,⁶ total parotidectomy, tympanic neurectomy,⁷ intraoral transposition of parotid duct,⁸ radiation therapy,⁹ use of botulinum toxin A,¹⁰⁻¹² and use of fibrin glue.¹³

In this paper we describe a simple but effective method of treating this complication with the use of hot hypertonic saline.

Case Report

A 35 years old male reported in the Department of Otolaryngology and Head-Neck surgery of Chattagram Maa O Shishu general hospital with left sided parotid abscess. Incision and drainage of abscess done and thereafter daily dressing with pressure bandage was done. Wound was healed but on 7th post operative day a watery, odorless discharge ran from the wound.

A diagnosis of parotid fistula was made on the basis of history, location and clinical inspection of the discharge. The daily dressing with pressure bandage was applied for first seven days with antibiotics but there was no significant decrease in discharge.

Warm hypertonic saline (60°C) was injected after flushing with Betadine followed by pressure dressing and antisialagogue drugs were given for 5 days. On the 5th day of this course the fistulous tract healed spontaneously and there were no associated complications. Patient had been on continuous follow-up for 3 months and there were no complications reported till date.

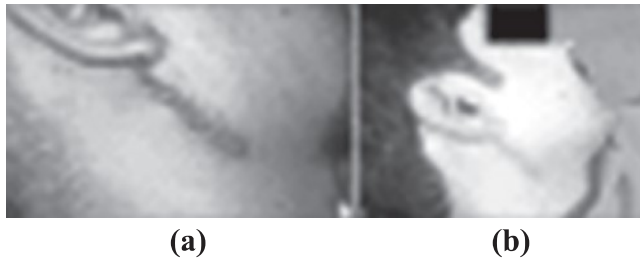


Figure :- One week post operative parotid fistula (a), Three week postoperative picture with complete healing (b)

Discussion

The management of parotid fistulae and sialoceles 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 attempts to depress secretion by antisialagogues or radiotherapy.

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.¹⁴ Parotidectomy has also been discouraged as a treatment modality as postoperative facial palsy is seen in 75% of cases.¹⁴

Low-dose radiotherapy for the treatment of parotid fistula is validated because parotid secretions are reduced after radiotherapy but because of its long-term ill effects it is not the preferred method of treatment.

Tympanic neurectomy appears to be a satisfactory method of dealing with selected parotid duct fistulas, and glandular fistulas are best treated by tympanic neurectomy. Suppression of parasympathetic activity by the use of tympanic neurectomy has been said on some occasions to be

transient (for example, Frey's syndrome).⁷

Pressure dressings lead to atrophy of the gland as the lobules of the gland are contained in relatively inelastic capsule. The sustained rise in ductal pressure leads to compression of capillaries and veins, resulting in decrease in secretion and atrophy of gland.⁶ But there is no adequate proof of their efficacy in literature.

Botulinum toxin A has been used nowadays but it has a latency period and requires repeated injections for desired effects and the effects may not last long enough to bring about complete remission of disease. Moreover it is a costly procedure.

Fibrin glue has also been used recently;¹³ however, it is said that fibrin glue is rendered inactive by saliva leading to recurrence of fistula.

Hypertonic saline has been used in sclerotherapy in various concentrations. It has also been used for the treatment of varicose veins as an alternative to surgery;¹⁵ and in the head and neck region for treatment of venous malformations with good results.¹⁶ Thermodynamic and physicochemical calculations suggest that these solutions work by causing conformational denaturation of the cell membrane proteins in situ and saline can be diluted to a point where there will be no cellular toxicity. The temperature of the saline can be raised above body temperature (60 degree) to enhance the fibrosing property of physiologic saline.

Conclusion

Hot hypertonic saline can be used for the purpose of fistula closure because it is cost effective, causes no foreign body reaction or hypersensitivity reaction to the patients, easily available, non-toxic and non-irritant to the surrounding structures. There are no chances of

inadvertent injury to facial nerve and its branches and serves the purpose of causing fibrosis of gland parenchyma and spontaneous closure of fistula with no complications.

References

1. Shapiro DN, Gallo J, Moss M. Subcutaneous parotid effusion after mandibular osteotomy. *J Oral Surg.* 1978;36:397–8.
2. Goldberg MH, Marco W, Googel F. Parotid fistula: A complication of mandibular osteotomy. *J Oral Surg.* 1973;31:207–8.
3. Dierks EJ, Granite EL. Parotid sialoceles and fistula after mandibular osteotomy. *J Oral Surg.* 1977;35:299–300.
4. Laskin JL. Parotid fistula after the use of external pin fixation: Report of case. *J Oral Surg.* 1978;36:621–2.
5. Bergstrom L, Hemenway WG. Parotid-antral fistula. Complication of facial fracture. *Arch Otolaryngol.* 1971;93:519–20.
6. Parekh D, Glezerson G, Stewart M, Esser J, Lawson HH. Post-traumatic parotid fistulae and sialoceles. A prospective study of conservative management in 51 cases. *Ann Surg.* 1989;209:105–11.
7. Davis WE, Holt GR, Templer JW. Parotid fistula and tympanic neurectomy. *Am J Surg.* 1977;133:587–9.
8. Doctor VS, Raffi A, Enepekides DJ, Tollefson TT. Intraoral transposition of traumatic parotid duct fistula. *Arch Facial Plast Surg.* 2007;9:44–7.
9. Robinson AC, Khoury GG, Robinson PM. Role of irradiation in the suppression of parotid secretions. *J Laryngol Otol.* 1989;103:594–5.
10. Lim YC, Choi EC. Treatment of an acute salivary fistula after parotid surgery: botulinum toxin type A injection as primary treatment. *Eur Arch Otorhinolaryngol.* 2008;265:243–5.
11. Dessy LA, Mazzocchi M, Monarca C, Onesti MG, Scuderi N. Combined transdermal scopolamine and botulinum toxin A to treat a parotid fistula after a face-lift in a patient with siliconomas. *Int J Oral Maxillofac Surg.* 2007;36:949–52.
12. Arnaud S, Batifol D, Goudot P, Yachouh J. Non-surgical management of parotid gland and duct injuries: Interest of botulinum toxin. *Ann Chir Plast Esthet.* 2008;53:36–40.
13. Zwaveling S, Steenvoorde P, da Costa SA. Treatment of postparotidectomy fistulae with fibrin glue. *Acta Medica (Hradec Kralove)* 2006;49:67–9.
14. Ananthakrishnan N, Prakash S. Parotid fistulas: A review. *Br J Surg.* 1982;69:641–3.
15. Parsons ME. Sclerotherapy basics. *Dermatol Clin.* 2004;22:501–8.
16. Cabrera J, Cabrera J, Jr, Olmedo AG, Redondo P. Treatment of venous malformations with sclerosant in microfoam form. *Arch Dermatol.* 2003;139:1494–6.
17. Chhabra N, Chhabra S, Kapila SA. Use of hypertonic saline in the management of parotid fistulae and sialoceles: a report of 2 cases. *J Maxillofac Oral Surg.* 2009;8:64–67.