

Case Report

Oral Mucosal Thermal Burn: A Case Report

Soumick Ranjan Sahoo

Department of ENT, Steel Authority of India Limited IISCO Steel Plant Burnpur Hospital,
Asansol, Paschim Bardhaman, West Bengal

Correspondence: Dr. Soumick Ranjan Sahoo (soumicksahoo@gmail.com)

ABSTRACT

Background: Thermal burns of oral cavity are an emergency case which requires prompt management. They are usually caused by ingestion of hot substances. They present as erosive lesions with erythematous borders surrounding whitish damaged mucosa.

Case Description: A 32-year-old patient reported to the hospital with complains of burning sensation in the mouth along with painful oral lesions following ingestion of hot liquids. On examination irregular shaped erosive ulcerative lesions were noted in the floor of the mouth and ventral aspect of the tongue. A provisional diagnosis of oral mucosal thermal burn was made and case was managed conservatively. Patient has responded well to the treatment.

Discussion: Ingestion of hot substances are implicated in oral thermal burns. Most of the cases can be managed conservatively with antibiotics, antiseptic mouth washes and anti-inflammatory medications while certain cases may require surgical management.

Conclusion: It is concluded all such burn injuries of oral mucosa must be managed on a priority basis in the emergency or outpatient department and in case of severe burns or burn injuries associated with complications may be referred to the burn specialist/facial plastic surgeon

Keywords: Oral, Thermal, Burns, Erythematous, Whitish

INTRODUCTION

Burn injuries in any portion of the body are an issue of concern. The annual burn incidence in India is estimated to be of 6-7 million, based on data from major hospitals when extrapolated to whole of the country.¹ Thermal injury of the oral cavity can be seen in any patient population with no gender or age predilection.² The clinical significance of such cases lies in the proper evaluation and judicious management to prevent complications. Such cases of thermal burns of the oral cavity are managed by

various conservative mode of treatment while certain cases may require surgical management. Very few numbers of oral thermal burn injuries are reported in scientific literature and one such case is being described here.

CASE HISTORY

A 32-year-old man reported to the hospital with complains of sudden onset burning sensation along with painful lesions in the anterior part of oral cavity since 3 days following accidental drinking of hot liquids.

On local examination few oval shaped and multiple irregular shaped erosive ulcerative lesions were noted in the floor of mouth and ventral aspect of tongue. The ulcerative lesions had erythematous borders surrounding whitish mucosa and were tender on palpation. [Figure1] Induration was absent. Submandibular gland examination was within normal limits and flow of saliva at the opening of the submandibular duct was reported within normal limits.

A provisional diagnosis of oral mucosal lesion associated with thermal burn injury was made although the differential diagnosis include oral mucosal lesions associated with various other types of superficial oral burns.

Patient was managed conservatively with AMOXYCLAV 625 mg 1 tablet twice daily for 7 days, CHLORHEXIDINE mouth gargle 3 times a day, CHLORHEXIDINE mouth gel, OMEPRAZOLE 1 capsule once daily empty stomach and analgesic as per need.

Patient was followed up and he has responded well to conservative management and the ulcerative lesions have healed and the burning sensation in the mouth has subsided.



Figure-1: Ulcerative lesions showing whitish damaged oral mucosa

DISCUSSION

Ingestion of hot foods or beverages are the usual causes implicated in thermal burns of the oral cavity.³ In the present case ingestion of hot liquid was the etiological factor causing burn of the oral mucosa. Cases of thermal injury to oral mucosa caused by microwave heated food have also been reported.⁴

The most common sites of thermal burns include the palatal arc and the anterior tongue.⁵⁻⁷ While in the present case the site of lesion was the anterior tongue ventral aspect and the floor of the mouth. In case of burns of anterior floor of the mouth patency of the submandibular ducts must be assessed.^{5,8}

The classical presentation of thermal burn lesions are oval shaped or circular pattern erosions, with erythematous borders surrounding whitish damaged mucosa.^{5,9}

Depending on the site and size of lesions, the treatment options include non-steroidal anti-inflammatory drugs, antibiotics, antiseptic mouthwashes, coverage with a protective emollient paste or a hydroxypropyl cellulose film, topical anesthetics, and surgical debridement.^{5,9-11} Surgical management is indicated in case of contractures and salivary gland duct injuries.^{5,8}

The case evaluated in our hospital was managed conservatively and patient recovered from thermal burn injury caused to the oral mucosa. The rationale behind the plan of management was based on the resources available in our hospital setup and the decision of the patient to be evaluated on an outpatient basis.

The clinical implications or the key learning points are that the present case will help the medical researchers to develop a diagnostic and treatment protocol for thermal burns of the oral mucosa.

CONCLUSION

Thermal Burns of the oral cavity should be managed promptly on a priority basis and may be referred to the burn specialist/facial plastic surgeon in case of burns not responding to conservative treatment or burn injuries presenting with complications.

REFERENCES

1. Gupta JL, Makhija LK, Bajaj SP. National programme for prevention of burn injuries. *Indian J Plast Surg.* 2010 Sep;43(Suppl):S6-S10. doi: 10.4103/0970-0358.70716. PMID: 21321659; PMCID: PMC3038407.

2. McKinney R, Brizuela M, Olmo H. Physical and Chemical Lesions of the Oral Mucosa. [Updated 2025 Jan 22]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2026 Jan.
3. Goldemberg DC, de Melo Pino LC, de Lima Araujo LH, de Melo AC, Antunes HS. Successful GaAlAs low-level laser therapy of self-inflicted thermal burns of the palate. *SAGE Open Med Case Rep.* 2021 Mar 3;9:2050313X21997205. doi: 10.1177/2050313X21997205. PMID: 33747516; PMCID: PMC7940780.
4. Wakefield Y, Pemberton MN. Oro-facial thermal injury caused by food heated in a microwave oven. *Dent Update.* 2009 Jan-Feb;36(1):26-7. doi: 10.12968/denu.2009.36.1.26. PMID: 19294832.
5. Sahoo SR. Thermal Burn at an Unusual Site in the Oral Cavity: A Case Report. *Bombay Hosp J* 2024;66(1):17-18.
6. Jadhav KD, Verma J. Burns of oral mucosa - A review. *J Dent Spec* 2022;10:43-7.
7. Nahlieli O, Eliav E, Shapira Y, Baruchin AM. Central palatal burns associated with the eating of microwaved pizzas. *Burns* 1999;25:465-6
8. Kang S, Kufta K, Sollecito TP, Panchal N. A treatment algorithm for the management of intraoral burns: A narrative review. *Burns* 2018;44:1065-76.
9. Kafas P, Stavrianos C. Thermal burn of palate caused by microwave heated cheese-pie: A case report. *Cases J* 2008;1:191.
10. Mortazavi H, Safi Y, Baharvand M, Jafari S, Anbari F, Rahmani S. Oral white lesions: An updated clinical diagnostic decision tree. *Dent J (Basel)* 2019;7:15.
11. Neville B, Damm D, Allen C, Chi A. *Oral and Maxillofacial Pathology.* 4th ed. Amsterdam, The Netherlands: Elsevier; 2016.

Source of support: Nil

Conflict of interest: None declared

How to cite: Sahoo S R. Oral Mucosal Thermal Burn: A Case Report. *GAIMS J Med Sci* 2026;6(2): 167-169
<https://doi.org/10.5281/zenodo.22640320>