

A case report of gustatory rhinorrhea after maxillectomy performed for squamous cell carcinoma

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ABSTRACT

A case of 75-year-old male presented with gustatory rhinorrhea for 3 months. Patient has positive history of maxillectomy performed 4 years back for squamous cell carcinoma of maxilla.

Keywords: Gustatory rhinorrhea, maxillectomy, squamous cell carcinoma of maxilla

Introduction

Gustatory rhinorrhea or food-induced rhinorrhea is described as secretion of thin watery fluid from nasal mucosa on sight of food or thinking of food. It can be described as an example of nonallergic rhinitis which is rhinitis with negative skin prick test results and negative allergen-specific antibody tests. Other examples of nonallergic rhinitis include vasomotor rhinitis, hormonally induced rhinitis, atrophic rhinitis, senile rhinitis, cerebrospinal fluid leak, infectious rhinitis, and mechanical or anatomical aberrations causing rhinitis.^[1]

The pathophysiology behind gustatory rhinitis is similar to Frey's syndrome which involves aberrant regeneration of parasympathetic nerves.^[2]

Case Report

A 75-year-old male patient reported to outpatient department (OPD) with chief complain of dribbling of nasal secretions when thinking of food or sight of food or waiting for food to come for 3 months. Amount of fluid secreted was around 50 ml during each episode. His past medical history includes Type II diabetes mellitus. No history of hypertension or other comorbidities.

4 years back, the patient presented in OPD with a complaint of painless swelling of posterior upper maxillary area with abnormal growth of mucosa along with white fibrotic patches, ulcers, reddish gingiva, and scaly appearance of mucosa with raised edges. Pathology involved mucosa of hard palate and soft palate. After undergoing incisional biopsy, the patient was

diagnosed with squamous cell carcinoma of maxilla T2N0M0. Maxillectomy was done involving upper 1st and 2nd quadrant of maxilla and interim immediate palatal obturator was placed. No post-operative complications were reported. Intraoral examination revealed no problem regarding denture. Speech, mastication, swallowing, and breathing were normal. Denture retention and stability were good. The patient had good oral hygiene.

Discussion

Gustatory rhinorrhea is a rare complication of maxillofacial surgery. It significantly impairs quality of life. The first case of gustatory rhinorrhea was defined by Bodie in 1976, which occurred after unilateral radical prostatectomy.^[3] Procacci *et al.* described a case in which gustatory rhinorrhea was caused by mechanical irritation of nasal mucosa fibers by nasal part of obturator prosthesis placed after partial maxillary resection.^[4] Hamilton and Nettle describes a case of 63-year-old male who developed gustatory rhinorrhea after unilateral parotidectomy was performed for infiltrating squamous cell carcinoma.^[5] Ang *et al.* reported case of a 44-year-old female with gustatory rhinorrhea since childhood. The episode of rhinorrhea was controlled using topical atropine; however, the patient opted for surgery. Surgery involved dissection of posterior nasal nerve through middle meatus under endoscopic control and the condition was permanently treated without any post-operative complication.^[6]

Anticholinergic medications such as atropine can inhibit secretory response and have resulted in reduction of secretion as studies performed on guinea pigs and humans.

Some surgeons recommend using anti-histamines an hour before eating foods but some clinicians believe that it has no clinical benefit. Our patient had little to no benefit on using anti-histamines. Nasal corticosteroid sprays, mucolytic medications, and nasal irrigation can be helpful in some cases. Increased water intake worsens clinical outcome and so does increased humidity in air. Patients should avoid spicy food and caffeinated beverages.^[6,7]

References

1. Kaliner MA. Classification of nonallergic rhinitis syndromes with a focus on vasomotor rhinitis, proposed to be known henceforth as nonallergic rhinopathy. *World Allergy Organ J* 2009;2:98-101.
2. Langan ML. Gustatory rhinorrhea as a complication of oral surgery. *J Am Geriatr Soc* 2004;52:1786-7.
3. Boddie AW, Guillaumondegui OM, Byers RM. Gustatory rhinorrhea developing after radical parotidectomy-a new syndrome? *Arch Otolaryngol* 1976;102:248-50.
4. Procacci P, Ferrari F, Zambotti T, Donadello D, Prandi E, Zanette G, *et al.* Rhinorrhea triggered by obturator prosthesis after surgical intervention of partial maxillary resection: A clinical report. *Minerva Stomatol* 2014;63:369-74.
5. Hamilton RB, Nettle WJ. Gustatory rhinorrhea after radical parotidectomy. *Scand J Plastic Reconstr Surg Hand Surg* 1990;24:163-6.
6. Ang YY, Kawano K, Saito T, Kasai M, Ikeda K. Treatment of idiopathic gustatory rhinorrhea by resection of the posterior nasal nerve. *Tohoku J Exp Med* 2006;210:165-8.
7. Sunose H, Zhang W, Ishigaki M, Katori Y, Suzuki M, Ikeda K, *et al.* Isolation of acini from nasal glands of the guinea-pig. *Acta Physiol* 1994;151:377-84.