



Management of Palatal Perforation Secondary to Nasal Myiasis

Suhas SS and Priya Badkar*

Senior Resident, Department of ENT, Mysore Medical College and Research Institute, Mysore, Karnataka, India

***Corresponding Author:** Priya Badkar, Senior Resident, Department of ENT, Mysore Medical College and Research Institute, Mysore, Karnataka, India.

Received: May 31, 2023

Published: October 27, 2023

© All rights are reserved by **Suhas SS and Priya Badkar.**

Abstract

Atrophic rhinitis predisposes to nasal myiasis. larval form of chrysomia causes the destruction of surrounding soft tissue and bony structure. Here we report one such case where a middle aged female patient presented with bilateral nasal obstruction, anosmia and recurrent epistaxis. Thorough examination showed erosion of palate by the localized destruction by maggots. Management included manual removal of maggots with surgical debridement, modified youngs operation and use of palatal obturator. Recovery of the patient shows the effectiveness of combined modality of management and the needless of surgical repair of palatal perforation.

Keywords: Palatal Perforation; Nasal Myiasis; Obturator

Introduction

Nasal myiasis is an extremely distressing condition. Atrophic rhinitis is the commonest predisposing factor for this condition [1]. Maggots are the larval form of fly Chrysomia. They create tunnels in the soft tissues of the nose, sinuses, nasopharynx, pharyngeal walls, orbital tissues, lacrimal apparatus, facial tissues and skull base and may even cause bone destruction resulting in death. They may also cause bone destruction resulting in nasal dorsal deformities, facial deformities, septal and palatal perforations [2].

Case Report

A 52 year old female presented to otorhinolaryngology department with bilateral nasal obstruction, foul smelling yellowish mucopurulent nasal discharge since 6 months, anosmia since 3 months and recurrent epistaxis since 1 month. Patient did not have any co morbidities.

On examination of nose, skin and osteocartilagenous framework was normal. Vestibule was widened. Anterior rhinoscopic examination showed bilateral nasal cavities were roomy, filled

with brownish crusts and maggots. Oral hygiene was poor. Palatal perforation measuring 3*2 cms involving whole of soft palate extending to posterior part of hard palate covered with crusts was noted (Figure 1). Diagnostic nasal endoscopy revealed the presence greenish crusts and plenty of maggots in bilateral nasal cavities and atrophy of turbinates (Figure 2).



Figure 1: Palatal perforation with crusts.



Figure 2: Endoscopic visualisation of right nasal cavity showing numerous maggots.

A computed tomography of nose and paranasal sinuses revealed atrophy of middle and turbinate and presence of oronasal fistula (Figure 3). Biopsy from the soft palate showed necrotic tissue with bacterial colonies and dense collection of neutrophils. Based of clinical and radiological findings diagnosis of nasal myiasis secondary to atrophic rhinitis with palatal perforation was made.



Figure 3: Computed tomographic images showing palatal perforation and destruction of right middle turbinate.

Further management included medical, surgical and preventive measures. Preventive measures included use of mosquito nets. Patient was started on injection ceftriaxone 1 gm iv twice daily, inj metronidazole 100ml iv thrice daily and removal of maggots by instillation of drops of turpentine oil was done daily. Alkaline saline douching was continued up to 3 months. Surgical debridement was done to remove the crusts and necrotic tissue in the nasal cavity and palatal perforation. Ryles tube feeding was done upto 2 weeks after which oral feeding was encouraged. Patient also underwent modified Young’s procedure. Palatal obturator was used to prevent nasal regurgitation. Regular follow up was done every week which showed the reduction in size of the defect (Figure 4). Complete closure was seen after 2 months (Figure 5).



Figure 4: Post surgery.



Figure 5: After 6 weeks follow up.



Figure 6: Complete closure of perforation after 2 months.

Discussion

Palatal perforation is a defect in the hard palate or soft palate resulting in the communication of oral and nasal cavity. Etiology of palatal perforation are numerous. These includes developmental defects, traumatic, drug abuse (cocain, heroin), infections (syphilis, tuberculosis, leprosy, atrophic rhinitis, mucormycosis), autoimmune (wegeners granulomatis, sarcoidosis, lupus erythematosus), iatrogenic and neoplasm [3].

Palatal fistulas are often symptomatic due to their size and location. Symptoms include hypernasality in the phonation related to nasal air escape during speech, nasal cavity fluid leakage, and infection due to food accumulation. Depending on the amount of functional impairment, a palatal fistula may cause psychological, social, and developmental problems and should be repaired [4].

Various treatment approaches have been discussed in literature. These includes prosthetic obturator, silicon buttons [5], surgical options like closure with local or distant flaps [6]. Prosthetic obturators avoid nasal reflux, facilitating correct swallowing and sufficient speech performance. The positioning of a silicone button to close the perforation and thus improve the air flow in the nose and reduce progression of local necrosis [7].

For smaller defects, nasal septal flaps, tongue flaps, buccal mucosal flaps and pharyngeal flaps have been used. For larger defects, the temporalis flap, forehead flap, and the deltopectoral flap have also been reported [8].

Conclusion

The use of palatal obturator improves the patients quality of life by preventing nasal regurgitation of the food and nasal tone of the voice. In this case, our patient needed modified youngs operation as a treatment approach to atrophic rhinitis and the palatal obturator aided in the healing of perforation. Complete closure of perforation was noted at the end of 2 months which showed the effectiveness of use palatal obturator and needless of surgical repair of palatal perforation.

Competing Interest Statement by All the Authors

The authors declare that they have no competing interest.

Authorship Statements by All Authors

All authors of this article declare that we qualify for authorship as defined by ICMJE. Each author has participated sufficiently in work and takes public responsibility for appropriateness of content of this article.

Bibliography

1. Sharma H., *et al.* "Nasal myiasis: review of 10 years experience". *The Journal of Laryngology and Otology* 103 (1989): 489-491.
2. Dutt SN and Kameshwaran M. "The aetiology and management of atrophic rhinitis". *The Journal of Laryngology and Otology* 119.11 (2005): 843-852.
3. Patil SR. "Proposed classification for the palatal perforation (Dr. Santosh Patil Classification)". *Journal of Interdisciplinary Medicine and Dental Science* 4 (2016): 2.
4. Honnebier MB., *et al.* "Closure of palatal fistula with a local mucoperiosteal flap lined with buccal mucosal graft". *Cleft Palate-Craniofacial Journal* 37 (2000): 127-129.
5. Chrkawi HE and Nasar H. "Prosthetic management of palatal perforation in heroin abuse patient". *Dental Oral Biology and Craniofacial Research* 1 (2015): 126-130.
6. Toptas O., *et al.* "Closure of oronasal fistula by Palatal Rotational Flap: Case report with two years follow-up". *Balkan Journal of Dental Medicine* (2019): 98-101.
7. Gargi V., *et al.* "Palatal perforation a rare complication of post anaesthetic necrosis". *Contemporary Clinical Dentistry* 8 (2017): 501-505.
8. Genden EM., *et al.* "Reconstruction of the hard palate using the radial forearm free flap: indications and outcomes". *Head Neck* 26 (2004): 808-814.