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Nasolabial flap, versatile option in severe oral submucous fibrosis: A case report

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Abstract
The nasolabial flap is a common flap used to repair nasal, labial, and intraoral defects.The use of inferiorly based nasolabial flaps in the treatment of oral submucous fibrosis is proposed in this article (OSMF).The use of a nasolabial flap in the treatment of a patient with clinically proven OSMF was investigated. The patient had an interincisal opening of less than 15 mm, which was treated by bilateral fibrous band release, intraoperative interincisal distance measurement (more than 40 mm following band release), and inferiorly based nasolabial flap filling the deficiencies. Patients received postoperative physiotherapy and were monitored for two years. There were no signs of infection, dehiscence, or necrosis after the flap healed.

Keywords: oral submucous fibrosis, axial flap, nasolabial flap

Introduction

Sushruta, an Indian physician who is assumed to have lived around 700 BC, wrote the Sushruta Samhita, a treatise in which 300 surgical procedures were described. One of the most well-known methods covered in this article is the use of forehead skin to reattach noses that were removed as a kind of criminal punishment. The nasolabial flap was also described in Sushruta's text. Pictures of nasolabial flaps first appeared in print in the 1800s. Dieffenbach utilised superiorly based nasolabial flaps to repair nasal alae around 1830, according to contemporary surgical reports. Von Langenbeck reconstructed the nose with the nasolabial flap in 1864. Fifty-seven years later, Esser's mentioned the use of nasolabial flap to treatment palatal defects. Since these early literatures, the nasolabial flap has been used to rebuilt the floor of the mouth, lips, tongue, buccal mucosa, upper and lower alveolus [1]

Oral submucous fibrosis (OSMF) is a debilitating chronic condition characterised by limited mouth opening and poor oral hygiene. The oral mucosa blanchs and stiffens in oral submucous fibrosis, resulting in gradual mouth closure and intolerance to hot and spicy meals. It is more common in the Indian subcontinent and is known to be a serious premalignant condition. The treatment seeks to achieve good fibrosis release as well as long-term mouth opening outcomes [2] In the maxillofacial region, the nasolabial flap is an arterialized axial pattern flap that gets subdermal plexus blood flow from the facial artery (inferiorly based) or the superior temporal artery through its transverse facial branch and the inferiororbital artery (superiorly based).The inferiorly based nasolabial flap is a safe and cost-effective way to treat OSMF [3].

Materials and Methods

With the approval of the ethical committee, a patient with grade OSMF was admitted and surgically treated in our hospital. Before surgery, patients signed an informed consent form. With an interincisal distance of less than 15 mm, the patient had progressed OSMF (Fig.1A&B). The age, sex, aetiology, history of gutkha/tobacco chewing, and preoperative mouth openness of the patients were all recorded. The case was proven in a clinical setting. The maximal interincisal distance was assessed after patients were observed for two years (Fig.3.C).

Surgical Technique

An inferiorly based nasolabial flap is preferred for oral cavity repair. The procedure was carried out under general anaesthesia and nasal intubation. Fibrotomy was performed transversely from right below the commissure of the oral cavity and extending posteriorly, depending on the placement of the fibrotic bands (Fig 2). Immediately after the bands were released, the intraoperative mouth openness was more than 45 mm (Fig.4). The third molars in the maxillary and mandibular jaws were extracted. From the apex of the nasolabial fold to the angle of the mouth, the nasolabial flaps were marked and bilaterally elevated in the plane of the superficial musculoaponeurotic system (Fig. 3 B & C).The nasolabial fold's hairless skin was used to create two triangular flaps that were raised superficially to the facial muscles. The triangles were interdigitated and sutured to the

defect's edges after tunnelling through the cheek and into the mouth.The secondary defect was repaired by direct suturing, with a small triangular area around the flap's base left unsutured to avoid constriction (Fig.2E&F). The pedicles were separated three weeks after surgery, and the base was restored and sutured in its original position. Physiotherapy began on the fifth postoperative day, and patients were told to continue it for up to six months on their own to avoid relapse. Patients were followed up on on a regular basis.

Result

With minimal intraorally and extraorally scarring, enough mouth opening was attained and maintained. There were no signs of infection, dehiscence, or necrosis during the healing process. The extraoral aesthetic result was good, and the donor location did not need to be revised. It was also discovered that intraoral hair had been transferred with the flap (Fig.3A&B). De-epithelialization was frequently used to solve the problem. The oral function of the patient was unaltered. In this subset of reconstruction, the patient was able to maintain health with a soft diet.

Fig 1: A&B: Trismus & Pre-Operative Mouth Opening

Fig 2: Excisioon of Fibrotic Bands

Fig 3: Surgical Markings for Nasolabial Flap

Fig 4: Intra-Op Mouth Opening

Fig 5: E & F Nasolabial Flap and Extraoral Suturing

Fig 6: Intraoral Site Showing Epithelised Nasolabial Falp with Few Remaning Hair Growth

Fig 7: 2 Year Follow Up Showing Inconspicious Scar

Discussion

Dieffenbach employed superiorly based nasolabial flaps to repair deformities of the ala of nose in 1830, and the idea of employing the spare skin of the nasolabial fold to reconstruct neighbouring defects dates back to 1830. Esser repaired palatal fistulae with inferiorly based nasolabial flaps in 1917 [4] Several surgeons have documented variations of the flaps since then, ranging from the traditional pedicled flap (superiorly or inferiorly based) to subcutaneously pedicled flaps and facial artery island flaps. The skin of the nasolabial fold is perforated by various minor branches of superior labial artery, branch of facial artery, and the terminal branch known as the angular artery. The infraorbital artery (a branch of the ophthalmic artery) and the transverse facial artery also supply nourishment to the skin on the superolateral side. Thus both a superiorly based nasolabial flap with transverse facial arteries as patent vessel and an inferiorly based nasolabial flap with the face artery as pedicle are available options [5] Tongue flaps are large and cause disarticulation, dysphagia, and an increased risk of aspiration when utilised bilaterally. Furthermore, in 38% of cases, the tongue is involved in the illness process [6] Reconstruction of bilateral buccal abnormalities with bilateral tiny, bipaddled radial forearm flaps necessitates two flaps and two microsurgeries. The process takes longer and is more technically difficult. Again, island palatal flaps have a drawback in that they do not extend posteriorly [7] After the fibrous bands have been removed, a buccal fat pad might be applied to mask the flaws. Paissat [8] discovered that while harvesting buccal pad fat is simple, the flap's anterior reach is frequently insufficient, preventing it from being employed for larger abnormalities. After removing fibrous bands, we employed inferiorly based nasolabial flaps to restore mucosal abnormalities. The benefits of a nasolabial flap are its close proximity to the defect, ease of donor site closure, and a well-hidden scar. Our experience with the flap for the aforementioned purposes has been positive. This procedure is particularly suited to the repair of lesions in the mouth floor that are 4 to 5 cm in diameter [9] It adds enough weight to the recipient site to ease postoperative recovery. The flap is easily accessible in the same surgical field, and harvesting it is simple and rapid, cutting down on operating time [10]. The nasolabial flap is a straightforward, effective, and safe procedure with a low risk of complications. Other authors have observed problems (infection, mild or significant flap necrosis, wound dehiscence) happening in a small minority of their patients, however not in this patient [11].

Conclusion

The nasolabial flap is a simple and practical approach in the reconstruction of selected oral abnormalities in a low-resource situation when microvascular expertise is unavailable, according to the observations of this study. The flap, rather than primary closure or a skin transplant, is used in reconstruction to improve functional outcomes. The treatment is simple to carry out and has a low risk of complications.

References

1. Schmidt BL, Dierks EJ. The nasolabial flap. Oral Maxillofacial Surg Clin North Am,2003:15(4):487-495.
2. Maria A, Sharma Y, Kaur P. Use of nasolabial flap in the management of oral submucous fibrosis – a clinical study. People's J Sci Res, 2011, 4(1).
3. Varghese BT, Sebastian R, Cherian T, Mohan RM, Ahmed I, Koshy CM, Thomas S. Nasolabial flaps in oral reconstruction: an analysis of 224 cases. Br J Plast Surg,2001:54(6):499-503.
4. Zufferey J. Anatomic variations of the nasolabial fold. Plast Reconstruct Surg 1992 Feb;89(2):225-231.
5. Lee JT, Cheng LF, Wang CH, Hsu H, Chen PR, Lin CM, et al. A doule skin paddle radial forearm flap for reconstruction of oral submucous fibrosis. Tzu Chin Med J,2006:18(5):362-368.
6. Paissat DK. Oral submucous fibrosis. Int J Oral Surg,1981:10(5):307-312.
7. Lazaridis N, Zouloumts L, Venetis G, Karakasis D. The inferiorly and superiorly based nasolabial flap for the reconstruction of moderate-sized oronasal defects. J Oral Maxillofac Surg,1998:56(11):1255-1259.
8. Lazaridis N, Tilaveridis I, Karakasis D. Superiorly or inferiorly based "islanded" nasolabial flap for buccal mucosa defects reconstruction. J Oral Maxillofac Surg,2008:66(1):7-15.
9. Cornmck GC, Lamberty BGH. The arterial anatomy of skin flaps. 2nd ed. Edinburgh: Churchill Livingstone, 1994.
10. Ducic Y, Burye M. Nasolabial flap reconstruction of oral cavity defects: a report of 18 cases. J Oral Maxillofac Surg,2000:58(10):1104-1108.
11. Ramadas T, Manokaran G, Pushpala S, Narayan V, Kulkarni G. Oral submucous fibrosis, a new dimension in surgery. Indian J Otolaryngol Head Surg,2005:57(2):99-102.