

Construction Of An Intraoral Nasal Stent For A Patient With Postatrophic Rhinitis Saddle Nose Deformity

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Abstracts: This case report discusses about a 50 years old female who had post atrophic rhinitis saddle nose deformity. The patient was first treated by a plastic surgeon who did “Inlay nasal grafting” and after that a temporary nasal stent was given which served mainly two purposes : 1) initially it maintained the graft in position and 2) secondly it prevented contracture of the graft. Also, a gumfit removable partial denture was given for replacing upper central incisors of the patient which greatly improved her esthetics. [Agrawal H et al NJIRM 2012; 3(5) : 151-153]

Key words: Intraoral nasal stent, inlay nasal grafting, gumfit partial denture, oro-nasal opening.

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Introduction: Maxillofacial prosthetics is the art and science of anatomic, functional, or cosmetic reconstruction by means of non living substitutes of those regions in the maxilla, mandible, and face that are missing or defective because of surgical intervention, trauma, pathology, or developmental or congenital malformation.¹

The restoration of esthetics in the patient with gross defects of the face and head is a valuable and often dramatic service provided by the maxillofacial prosthodontist. Nose is one of the important part of the face. The replacement of missing parts such as nose requires the utmost in clinical skill and utilization of available materials.² Prosthetic restoration of large facial defects gives the most pleasing esthetic results and is particularly preferable in older patients with oncologic defects.³ The challenge to the prosthodontist is to fabricate an esthetically pleasing restoration.

Nasal stents may be utilized in a variety of ways in conjunction with reconstructive surgery. Stents provide support for cartilage transplants during post surgical healing for the correction of nasal deformities. Nasal stents can also maintain contour and minimize scar contracture following skin grafting procedures to the nostrils. Stents may also be fabricated to counteract previously formed scar tissue and to widen the nostrils of trauma or burn patients prior to grafting procedures.⁴ Stents can be fabricated from various materials like silicones, acrylic etc. Silicone is normally preferred because of its light weight but it is costly and an additional reinforcement of resin is usually

required within the lumen to prevent collapse of the nares during inhalation.⁵ It has also limited lifespan, therefore an attempt has been made here to prepare a nasal stent in acrylic resin.

History : A 50 years old female reported to the prosthodontia department of G.D.C.H Ahmedabad. She was referred there by the plastic surgeon for the fabrication of an intraoral nasal stent. History revealed that patient was suffering from atrophic rhinitis – a nasal infection since 11 months. As a result the nasal septum was degraded resulting in depressed nose (Fig.1).



Fig.1 : Postsurgical photograph of the patient showing depressed nose

Examination

Extraoral : It revealed depressed nose.

Intraoral : All teeth were present except both upper central incisors where root pieces were present and upper right first & second molars. There was oro-nasal opening present in the upper labial vestibule region (Fig. 2).



Fig.2 : Intraoral photograph showing oronasal opening in upper labial vestibule & rootpieces of upper central incisors

Management : Patient first reported to the plastic surgeon who had planned inlay nasal grafting followed by augmentation of dorsum of nose by bone graft after 6 months. The surgeon had give "Flying bird incision" at root of nose, dissection was done and a cavity was created inside the nose. The mucosa lining the cavity had fibrosed as a result the cavity was devoid of mucosa. So inlay nasal grafting had to be done. A dental mold made up of impression compound was kept inside the cavity at the time of surgery. A split thickness graft taken from thigh was placed with epidermis towards the mold and dermis towards the nasal side. After seven days the mold was removed under GA and the graft was taken up by the nasal cavity. After this surgery a temporary nasal stent was required for six months. The stent maintains the graft in position and it also prevents contracture of the graft. Graft can contract for six months after placement. So the stent has to be placed for six months. After six months the plastic surgeon had planned for augmentation of nose by bone graft in which bone graft from iliac crest or rib crest is placed for saddle nose deformity.

Dental Treatment Plan

Nasal Stent : Procedure started nearly 1 month after surgery. Opening of cavity was present in upper labial vestibule and all procedures of prosthesis fabrication were performed from this cavity. Impression of the cavity was taken with impression compound and cast was made (Fig.3).



Fig.3 : Impression of the cavity

Cast was filled with modeling wax and a wax die was prepared. The wax die was directly flaked and after dewaxing, the cavity was filled with heat cured acrylic resin and was cured. Then after deflasking, finishing and polishing, necessary adjustments were done and it was delivered to the patient. A 19 gauge wire loop was inserted in the base of the prosthesis so that patient could take it out and insert it herself (Fig.4).



Fig.4 : Wire inserted at base of prosthesis for easy insertion and removal

Oral hygiene instructions were given to the patient. Patient was advised to remove the stent everyday and clean it properly.

Gumfit Partial Denture : The root pieces in the region of upper central incisors were extracted and a gumfit removable partial denture was given

which greatly improved the patient's esthetics (Fig.5).



Fig.5 : Gumfit partial denture

The patient was kept on regular follow up.

Treatment Outcome : The nasal stent resulted in contouring of the bridge of the nose and also prevented the graft contraction. The gumfit partial denture greatly improved the patient's appearance. The patient was very much satisfied after the treatment (Fig.6,7).



Fig.6 : Intraoral photograph showing nasal stent and gumfit partial denture in place

Discussion : Without doubt, maxillofacial prosthodontia is one of the most challenging fields in dentistry. Rehabilitation of the chronically diseased patient is not merely a post treatment eventuality. It is a complex interaction of the patient with a variety of health professionals, the objective being to restore bodily and psychic function to optimum potential and to prevent additional dysfunction and inconvenience. Rehabilitation involves concern for the patient as a person as well as for the patient's social well being.



Fig.7 : Smile of satisfaction

Conclusion : The intraoral nasal stent and gumfit removable partial denture were given to the patient. Now she is comfortable with the prostheses and after six months augmentation of dorsum of nose by bone graft will be done by the plastic surgeon.

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