



Short Communication

Fabricating 2 piece closed hollow obturator with elastomeric impression material: An innovative dental technique

Asif Ahmed¹, Mutum Sangeeta Devi^{2,*}¹Dept. of, Tata Medical Center, Kolkata, West Bengal, India²Dept. of Dental Oncology, Tata Medical Center, Kolkata, West Bengal, India

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ABSTRACT

Maxillectomy defects are the most common results in oro-nasal communication, which leads to an expected change in speech tone, difficulty in mastication, and deglutition. These affect the quality of life of the patient and also impact them psychosocially in a long run. The most common management of maxillectomy patients for both complete and partial is by maxillary obturator prosthesis. To reduce the weight of the obturators various procedures of hollowing are present in literature. In this article, we will discuss an alternate and innovative laboratory technique for the fabrication of closed hollow obturator which will reduce the time of both dental technicians and clinicians.

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1. Introduction

An obturator is a maxillofacial prosthesis used to close, cover, or maintain the integrity of the oral and nasal compartments resulting from a congenital, acquired, or developmental disease process such as cancer, cleft palate, osteoradionecrosis of the palate; the prosthesis facilitates speech and deglutition by replacing those tissues lost because of the disease process and as a result, reduce nasal regurgitation, hypernasal speech, improve articulation, deglutition, and mastication; an obturator prosthesis can be classified as surgical, interim or definitive. prosthodontic restoration of a defect often includes use of a surgical obturator, interim obturator, and definitive obturator.¹

Large defect obturator has heavy weight. Hollow obturator for large defects is to reduce the weight of the obturator. It is the one that seal the defect as well as reduces the weight of the prosthesis. They can either be open hollow or closed hollow. To eliminate the regular collection of

moisture in the hollow section the open hollow obturators needs regular cleaning or placement of vents. Removable lids can also be placed to close the hollow portion. Closed obturators extend superiorly into the defect which reduces air space and also eliminates any pooling of moisture.²

There are various methods of fabricating hollow dentures present in the existing literature. Matalon and Parel used sugar to fabricate hollow denture. Gali described the use of brown sugar for a hollow obturator. Schneider advocated the use of crushed ice to fill up the cavity of the hollow obturator at the tie of packing. Sarkar et al in their study described the fabrication 2 piece hollow obturator used cotton to maintain the contour of the cavity.³⁻⁷ Jain suggested the use of glycerin soap for the fabrication of a single step hollow obturator. Some authors incorporated salt for the fabrication of a 2 piece hollow obturator. Another author described using polyurethane foam as the core of a hollow obturator.⁸⁻¹⁰ This article will describes the laboratory procedure in which the fabrication of a closed hollow obturator with the help of elastomeric impression material. Ease of fabrication while maintaining the exact contour of

* Corresponding author.

E-mail address: mutumsangeeta21@gmail.com (M. S. Devi).

the hollow portion.

2. Materials and Methods

This laboratory procedure was done on the impression of a Head and Neck cancer operated patient who underwent complete hard palate maxillectomy. For post-surgery status a hollow maxillary obturator was planned and fabricated with an alternate laboratory technique using heavy body elastomeric impression material.

1. Step 1 Undercuts in the defect area are covered with dental plaster (Figure 1)
2. Step 2. Adapt the cavity with 2mm of baseplate wax and lid prepared with wax. (Figure 2)
3. Step 3. After flasking heavy body elastomeric impression is adapted to the defect. Retentive pins are placed at the top of putty material. (Figure 3)
4. Step 4. Dental plaster is poured for the upper flask. At the lid portion of flask wax lid of the obturator is placed. (Figure 4)
5. Step 5 Wax is eliminated by dewaxing procedure (Figure 5)
6. Step 6. Packing of heat cure clear acrylic done and cured. (Figure 6) When compared to conventional way of packing there is plaster fragment within the cured cavity of the obturator. (Figure 7) The plaster is then removed. (Figure 8)
7. Step 7. The 2 piece clear acrylic finished. (Figure 9)
8. Step 8. Finished hollow obturator is then checked for any leaks and allowed to float in a water tank. (Figure 11)

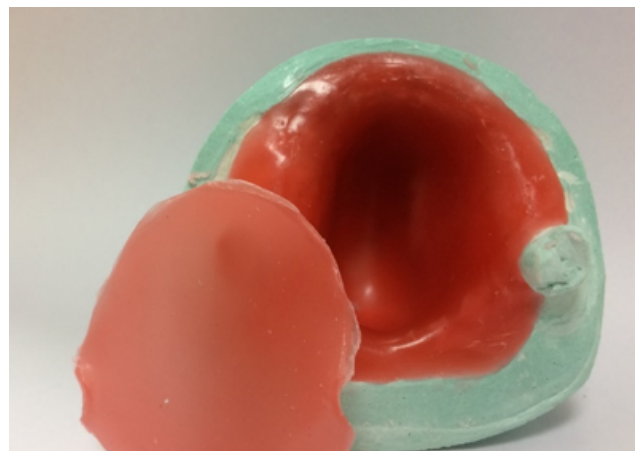


Fig. 2:



Fig. 3:



Fig. 1:



Fig. 4:



Fig. 5:

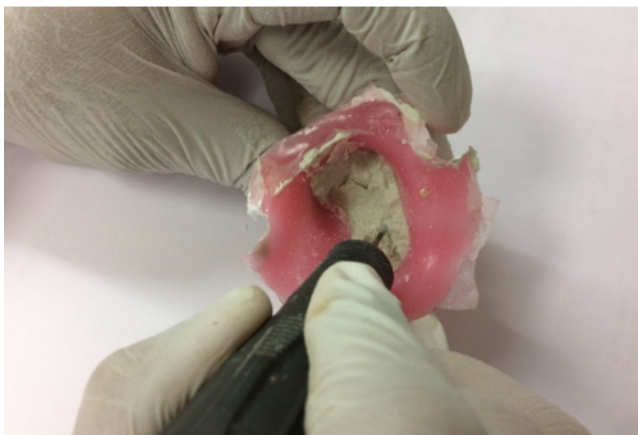


Fig. 8:



Fig. 6:



Fig. 9:



Fig. 7:

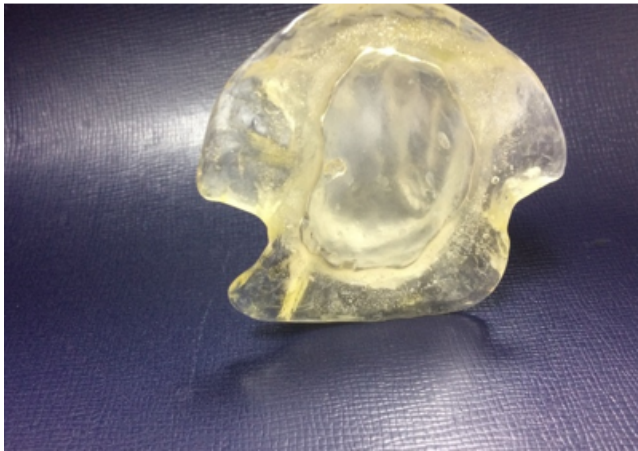


Fig. 10:



Fig. 11:

3. Summary

An innovative laboratory technique is presented for the fabrication of a 2 piece closed hollow obturator. This technique is advantageous over conventional 2 piece hollow obturator as the dental plaster does not stick to the defect area of the prosthesis, hence it reduces the laboratory time as well as the risk of damaging the cured obturator. The technique involves the use of heavy body/ putty elastomeric impression material over the hollow portion of the prosthesis during flasking and the lid is cured separately. More number of hollow obturator with the said technique can be done to reduce both dental technicians and clinicians.

4. Source of Funding

None.

5. Conflict of Interest

None.

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Author biography

Asif Ahmed, Prosthodontist

Mutum Sangeeta Devi, Dental Oncologist

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