

# HOLLOW BULB OBTURATOR: A BLESSING FOR MAXILLECTOMY PATIENTS — A CASE REPORT

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## ABSTRACT

*Patients suffering from maxillary defects often present themselves with problems like speech disturbances, difficulty in mastication and poor aesthetics. Fabrication of obturators for these patients will improve their quality of life. Different designs of obturators have been discussed in the literature. In this paper, fabrication of a hollow bulb obturator with its advantages and associated problems have been discussed.*

**Key words:** Maxillary Defect, Obturator, Hollow Bulb.

## INTRODUCTION

Maxillary defects can be due to congenital abnormalities or may be acquired and caused by trauma or surgical resections to treat different pathological conditions.

Persons with maxillary defects present themselves with many problems with speech, mastication and most importantly poor aesthetics. To overcome such problems obturator prosthesis are usually provided. Ambroise Pare was first to use obturator for the maxillary defects and since then many modifications have been made to improve the quality of these obturators.<sup>1</sup>

The term "Obturator" is derived from the Latin word "Obturare" means "to stop up". It is a maxillofacial prosthesis used to close a congenital or acquired tissue opening, primarily of the hard palate and/or contiguous alveolar/soft tissue structures.<sup>2</sup>

## CASE REPORT

A 40-year old male school teacher was referred to the Department of Prosthodontics, de, Montmorency College of Dentistry / Punjab Dental Hospital, Lahore, with a history of adenoid cystic carcinoma. Hemi maxillectomy of the right side was done by the oral surgery department. Fig 1.

Patient's radiotherapy treatment was completed and when he reported to us he was already wearing an

obturator. His main complaint was improper mastication and speech. On detailed examination of the defect, it was found that the defect came under class I defect.<sup>3</sup> The remaining dentition was intact without any restoration. Oral hygiene was also satisfactory. Examination of the prosthesis revealed that there was a space between palate and the tissue surface of the obturator. There was nasal discharge and lodgement of food. On mastication denture became loose.

Hollow bulb interim denture was planned for immediate treatment. His existing obturator was relined with tissue conditioner. Primary impression was taken with alginate and impression compound. After obtaining the cast, special tray was made with self cure resin. Then the secondary impression was taken using regular body condensation silicone impression material. Base plate was cured in a conventional way and jaw relation was recorded. Shade, size and mould for the obturator were also taken at this stage. To make hollow bulb obturator, pumice was mixed with plaster of paris and this mixture was packed in the defect part of the prosthesis and then covered with wax, which after final curing became the lid for the obturator. A 'C' shaped clasp on first molar and ball ended clasp were planned on first premolar of the intact dentition. Though aesthetically compromised but to get more retention, a clasp was also made on central incisor. Fig 2.

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Fig. 1 Hemi maxillectomy on right side

Fig 2. Hollow bulb obturator with clasp & teeth before final curing



Fig. 3. Hemi maxillectomy patient after insertion of hollow bulb obturator

The trial was taken and obturator was finally processed, and was given to the patient. Necessary instructions were given to the patient. He was instructed to clean the denture with water and chlorhexidine to avoid stomatitis.<sup>4</sup>

## RESULTS

Regular follow-up visits were carried out. Initially after every 2 weeks for two months, later after every month for further six months. This continued for one year. Patient was satisfied with his obturator. Marked improvement in phonetics was noticed at initial visit. Patient could perform mastication without dislodgement of the obturator. Minor correction was made by slight adjustment of the clasps.

## DISCUSSION

Hemi maxillectomy was done for this patient due to adenoid cystic carcinoma. Surgical excision along with radiotherapy was the treatment of choice for this tumour.<sup>5</sup>

Hollow bulb obturator which was planned for this patient has many advantages like:

- Weight of the obturator is markedly reduced.
- It helps in the acceptance of the obturator, as it decreases the self-consciousness of the patient for wearing the denture.
- It helps in swallowing by decreasing pressure in the surrounding tissues.
- It helps in achieving retention.

New methods are now adopted to make the hollow bulb. In one case hollow bulb was made by light cure denture base acrylic resin, which was then covered with soft tissue liner material. It provides good seal and retention simultaneously.<sup>6</sup> In another case hollow bulb was made with silicone material which is more easy to fabricate. Danger of leakage and discolouration can be safely avoided by using silicone.<sup>7</sup>

In this case use of clasp on central incisor though affected the aesthetics but it provided good retention along with improved function of mastication. Every patient is a different case and should be treated accordingly.

Introduction of dental implants in construction of obturator will not only further improve the quality of the obturator but also in turn improve the quality of life of such special persons.<sup>8</sup>

## CONCLUSION

By using readily available material and conventional techniques, a simple hollow bulb obturator can fulfill the requirements and provides marked improvement in patient's esthetic, speech and mastication. Thus it imparts a positive psychological effect on the patient's personality.<sup>9</sup>

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