



**ORIGINAL RESEARCH PAPER**

**Dental Science**

**MANAGEMENT OF CLEFT PALATE PATIENT WITH OBTURATOR –A CASE REPORT**

**KEY WORDS:** Aramany defect, obturator, completely edentulous

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**ABSTRACT** A cleft palate is a genetic disorder that occurs when an oro-nasal communication is present between the palate and the base of the nose. During pregnancy, the maxillary is not completely merged, and the defect is only seen at birth. Possible causes are hormonal imbalances, nutritional deficiencies, infections, radiation during pregnancy, alcohol or cigarette consumption, the ingestion of other teratogenic substances by the mother, and heredity. The resulting defect requires corrective surgery. In the case of a cleft palate, surgery is postponed until after the first year of life to avoid disturbing the normal development of speech and the risk of aspiration of food, which causes infections such as otitis and pneumonia. This article describes the prosthetic rehabilitation of completely edentulous patient.

**INTRODUCTION:**

The vicissitudes of morphogenesis expresses never so cruelly as in case of oro-facial clefts. Patients with cleft palate have many problems like, impaired articulation, problem in deglutition and seepage of nasal secretions into oral cavity. The complexity of these problems requires numerous health care professionals co-operating to provide the specialized knowledge and skill necessary for comprehensive care.

Interested, well-informed and resourceful dentists have made remarkable contributions toward fulfilling the communicative needs of cleft palate individuals. This has been accomplished by the construction and placement of prosthetic appliance. Basically, these prosthetic 'aids to speech' serve to obturate any opening or cleft of the palate and frequently carry an extension into the pharynx designed to improve or supplement velopharyngeal valving<sup>6</sup>.The survival rates of patients with head and neck cancer have improved in past several decades<sup>2</sup>. The open-hollow obturators often collect moisture and require frequent cleaning or exit holes to prevent the fluid accumulation<sup>5</sup>.

**CASE REPORT:**

A 47 years old female patient came to the Department of Prosthodontics and Crown & Bridge, CSICDSR, Madurai, with chief complaint of difficulty in speech due to missing upper teeth and poor esthetics. On taking dental history she was more conscious about her esthetics and speech. On intra oral examination patient was diagnosed and maxillary findings were recorded. Patient was completely edentulous maxillary arch with oro-nasal communication with missing teeth, mandibular movement was found within normal range and tongue movement was also normal. Patient had difficulty in speech and pronunciation of certain words. According to MM House's classification patient was classified as Philosophic. According to Aramany's classification for maxillary defect, it was classified under class III defect<sup>1</sup>, Obturator is derived from the Latin verb "obturare" which means close or to shut off. Patient was planned for prosthetic rehabilitation with obturator.



**FIGURE:1 - Pre-Operative View**

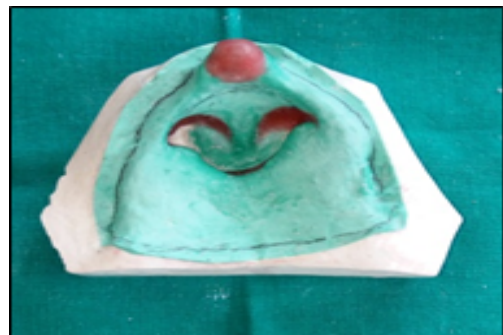
**CLINICAL PROCEDURE:**

**1)Preliminary Impressions:** Preliminary impressions of upper and lower arch were recorded with irreversible hydrocolloid impression material alginate with metal stock perforated trays. Impressions were poured with type-III dental stone and casts were obtained.(Figure:2)



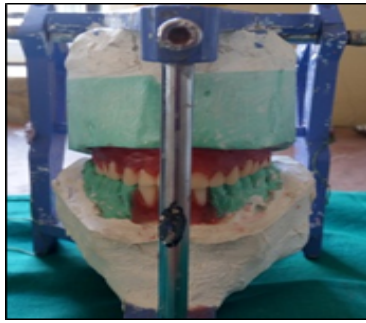
**FIGURE:2 - Primary Impression**

**2)Block Out of Defect:** Block out of the defect was done with type-II dental plaster.(Figure:3)



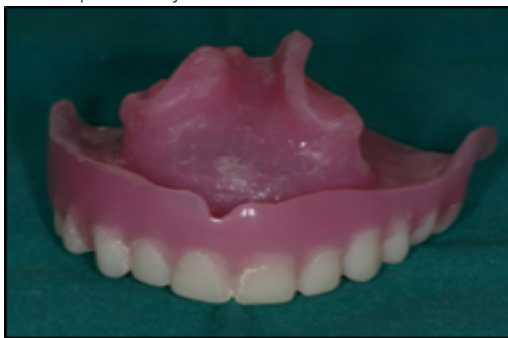
**FIGURE:3 - Block Out**

**3)Fabrication of Base Plate and Try-In Procedure:** Denture base with extension in the defect was made with self cured acrylic resin (DPI, RR, Mumbai, India) with sprinkle on method. Occlusal rims were made with modeling wax (DPI modeling wax Mumbai, India) in edentulous area for Jaw Relation. (Figure:4)



**FIGURE:4 - Try- In Verification**

**4)Fabrication Of Obturator:** Conventional compression moulding technique was used for fabrication of obturator. It was made up of heat cured acrylic resin (DPI, Mumbai, India) (Figure:5). Post insertion oral hygiene maintenance instruction were given as well as patient was instructed how to clean obturator. After insertion first follow up was done after 24 hours ,routine follow up was done periodically.



**FIGURE:5 -Final Denture**

The prosthesis was examined for speech, comfort, retention, and esthetics. The patient was taught to insert and remove the prosthesis. After insertion of prostheses mastication, deglutition, esthetics and phonetics were improved. The first follow-up was performed after 24 hours. The patient was fully satisfied with the final prosthesis.

**Advantages of a hollow bulb obturator:**

- The weight of the obturator is reduced, making it more comfortable and efficient.
- The lightness of the obturator improves one of the fundamental problems of retention and increases physiological function so that teeth and supporting tissues are not stressed unnecessarily.
- The decrease, in pressure to the surrounding tissues aids in deglutition and encourages the regeneration of tissue.
- The light weight of the hollow bulb obturator reduces the self-consciousness of wearing a denture.
- The lightness of the obturator does not cause excessive atrophy and physiological changes in muscle balance<sup>3</sup>.

**DISCUSSION:**

A person's personality can be affected to a greater extent due to facial disfigurement. Maxillofacial prosthesis help in rehabilitating such cases and make them socially acceptable.

The present case report describes a method for rehabilitation of Class III maxillary defect with an heat cured acrylic obturator. The prosthetic rehabilitation of such defects gives you an options of restoring esthetics and function by a non-invasive method. Heat cured acrylic resins are routinely used for construction of obturators. Other than acrylic, silicone is the material of choice for the fabrication of obturator. But silicone are not universally accepted as they have life less appearance and poor tear strength. Acrylic resin is available easily, easy to colour and stain, has good strength to be fabricated with feather margin and has shelf life of about 2 years. They are simple, non-invasive, cost-effective and allow for periodic examination and cleaning<sup>4</sup>.

This article describes the technique to fabricate the hollow bulb obturator for cleft palate with completely edentulous patient.

**CONCLUSION:**

Patients with such a defect suffer from a lot of psychological trauma due to impaired functions and aesthetics. Hence, we as prosthodontists should try to restore the lost form and function of the oral and peri-oral structures that will help the patient to live a normal life. Prosthetic rehabilitation will improve patient's social life and restores aesthetics, functions & also boosts patients morale. In the present case patient who had really faced lots of difficulties in speech and esthetics . Once the prosthesis was delivered improvement in speech, esthetics & function had positively affected her personal life.

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