

Case report

# Light weight prosthesis for a patient with bilateral orbital exenteration—A clinical report

Gunjan Pruthi MDS\*, Veena Jain MDS<sup>1</sup>

Department of Prosthodontics, CDER, AIIMS, New Delhi 110029, India

Received 9 August 2012; received in revised form 22 November 2012; accepted 8 January 2013

Available online 17 March 2013

## Abstract

*Patient:* This article describes a case report of a patient with history of bilateral orbital exenteration due to squamous cell carcinoma. Spectacle retained acrylic prosthesis was considered to be the best possible option in this case due to total lack of vision and related manual dexterity.

*Discussion:* Main challenge in fabrication of spectacle retained prosthesis is to maintain its adaptation with the tissues during attachment of the screws. So, method of attachment of prostheses with the frame has been discussed in detail. The other concern was the increased weight of the prosthesis and associated discomfort to the patient, as both artificial eyes had to be attached to one frame. Therefore, procedure to reduce the weight of the prosthesis is also discussed.

*Conclusion:* Successful prosthodontic rehabilitation is based on the selection of most suitable maxillofacial prosthetic material and appropriate retentive aid for each patient. Though spectacle retained acrylic prosthesis is a conventional method, it was a user friendly and economical option for this patient.

© 2013 Japan Prosthodontic Society. Published by Elsevier Ireland. All rights reserved.

*Keywords:* Orbital defects; Acrylic prosthesis; Eye prosthesis

## 1. Introduction

Total orbital exenteration is a radical surgical procedure which typically involves removal of the entire contents of the orbit, including periorbita. Consequently, it results in a deep orbital deformity in the patient with devastating cosmetic and functional implications that require expensive and technically challenging oculoplastic intervention [1]. The cosmetic deformity often also has a significant psychological impact [2].

Orbital prosthesis presents an attractive and viable alternative when esthetic and functional demands are beyond the capacity of local reconstructive efforts [1]. Acceptable cosmetic results usually can be obtained and this allows the patient to be accepted in society without being a victim of unwanted sympathy [3].

Facial prosthesis should be esthetic, durable, light weight, economical, and most importantly retentive. Various methods of auxiliary retention for facial prostheses include eye patches

[4], prosthesis fastened to spectacle frame [5], anatomic retention using conformer [6], extensions from the denture [7], magnets [8], adhesives [9–11], osseointegrated implants with attachments [12,13] and stud attachments [14]. Each method has its own advantages and disadvantages [11,15]. Sometimes, even if the prosthesis is retentive, the bulk of the prosthesis may cause discomfort to the patient with a large defect [16].

Ablative surgical procedure incurs major financial burden, and hence the patient may seek a prosthetic treatment that is economical. Therefore, selection of a reasonable maxillofacial prosthetic material and economically feasible retentive aid should be the goal of rehabilitating such patients [17].

Numerous case reports have been given in literature for rehabilitation of patients with unilateral missing eye [1–3,6,16,18,19]. This article discusses the challenges in rehabilitation of patient with bilateral orbital exenteration. Spectacle retained hollow acrylic prosthesis was fabricated for the patient. This improved the cosmetic appearance of the patient and gave confidence to the patient for social integration. Clinical procedure for fabrication of the prosthesis, method of attachment of the spectacle and laboratory procedure for making the prosthesis hollow to reduce the weight have been discussed in detail.

\* Corresponding author. Tel.: +91 9999968841.

E-mail addresses: [gunjan\\_prostho@yahoo.co.in](mailto:gunjan_prostho@yahoo.co.in) (G. Pruthi), [jainveenal@gmail.com](mailto:jainveenal@gmail.com) (V. Jain).

<sup>1</sup> Tel.: +91 9868397731.



**Fig. 1.** (a) Pre-treatment view of patient with bilateral orbital exenteration. (b) Facial impression with irreversible hydrocolloid.

## 2. Outline of case

A 52-year-old male patient was referred to the Department of Prosthodontics and maxillofacial prosthesis from Department of Ophthalmology, All India Institute of Medical Sciences for cosmetic rehabilitation. Patient reported with both eyes missing for past 3 months (Fig. 1a). Incisional biopsy had confirmed the lesion to be well differentiated squamous cell carcinoma which led to exenteration of right socket in 2009. Patient was not referred for prosthodontic rehabilitation at that time and he was not aware about any such possibility. Almost 2 years later, patient had to undergo exenteration of left eye due to diagnosis of well differentiated squamous cell carcinoma. He was first given chemotherapy to reduce the size of lesion (known as “Chemoreduced Ocular surface Squamous Neoplasm”) which was followed by total orbital exenteration under general anesthesia during which all the orbital contents along with the periosteum were removed. Patient had to leave his job because of lack of vision and was socially withdrawn because of facial deficit. This time patient was referred to us for cosmetic rehabilitation with artificial prosthesis. Local examination of the defects revealed right and left anophthalmic sockets which were well healed and devoid of any anatomic undercut.



**Fig. 2.** Tentative orientation of stock eye shells.

## 3. Impression making

The patient was draped for impression procedures and patient’s eyebrows were lubricated with petroleum jelly in order to facilitate removal of the impression material and minimize discomfort to the patient. Points were marked on the patient’s face with an indelible pencil for symmetrical placement of orbital prosthesis (Fig. 1a). A custom tray was made with impression compound (Y-Dents Impression Compound; MDM Corporation, New Delhi, India) by adapting it on the face of the patient. Retentive holes were made with hot instrument for engaging impression material. Impressions of both the orbital defects were made using irreversible hydrocolloid (Zelgan, Dentsply Limited, Addlestone, UK) (Fig. 1b) and cast was fabricated with type III gypsum product (Orthokal, Kalabhai Private Limited, Mumbai, India) for better surface details and strength.

## 4. Orientation of stock eye shells

Usually in patients with unilateral orbital exenteration, the contralateral eye acts a guide for orientation of the missing eye. But as this patient was a case of bilateral orbital exenteration, equidistant points were marked on the patient’s face with indelible pencil before making impression. Later on, these marks were transferred to the working cast. Very thin acrylic bases were fabricated with autopolymerizing resin (DPI-RR Cold Cure, Dental Products of India Limited, Mumbai, India) after applying separating medium on the cast. Stock eye shells with similar color of iris/pupil complex and suitable according to patient’s skin color were selected and placed with modeling wax over the acrylic bases (Fig. 2). Eye shells had to be trimmed to fit in the defect site and look symmetrical as the right side defect was larger than that of the left side. Further adjustments were done on patient’s face to provide front gaze and symmetrical positioning of eye shells in antero-posterior, superior–inferior and medio-lateral positions.

## 5. Sculpting of wax patterns

Patient had not brought any previous photographs with him which could guide about the anatomy of the missing parts. So, a

Download English Version:

<https://daneshyari.com/en/article/10167508>

Download Persian Version:

<https://daneshyari.com/article/10167508>

[Daneshyari.com](https://daneshyari.com)