

Rehabilitation of an Eviscerated Patient with an Acrylic Custom Made Scleral Shell Prosthesis-A Case Report

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Case Report

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Abstract: Eyes are generally the first features of the face to be noticed, playing a significant role in our daily lives. The most grievous yet, unfortunately, the most commonly occurring loss out of all the sensory organs is that of an eye. Such an adversity may have a prodigious emotional and psychological impact on the patient with loss of function. Artificial replacement of the lost eye is done with an ocular prosthesis. The prosthesis will improve patient's esthetics, restore and maintain health of these structures, and thereby provide physical and mental wellbeing. Accurate impression to duplicate the contours of the defect site is required for the fabrication of the custom made prosthesis. In the following case report, a custom made scleral shell prosthesis was fabricated for the patient.

Keywords: Orbital defect, maxillofacial prosthesis, Acrylic, Ocular prosthesis.

INTRODUCTION

Eye is a vital organ not only for function but also from an aesthetic point of view. Defects of eye can be broadly classified into enucleation; evisceration and exenteration. These defects have aesthetic, psychological and physiological impact on the patient. Prosthetic rehabilitation of this defect often includes ocular and orbital prostheses [1]. Acrylic ocular prosthesis can be stock or custom-made. Stock prosthesis is used for interim and post-operative purposes. Custom ocular prosthesis involves impression making of the affected socket and subsequently molding the scleral blank to achieve excellent adaptation with tissues [2-5]. Custom ocular prosthesis has several advantages like better eyelid movements, reduced incidence of ulceration, improved fit, comfort, improved facial contours, and enhanced aesthetics gained from the control over the size of the iris, pupil and colour of the iris and sclera.

Treatment options for an ocular defect may involve implants or acrylic resin prosthesis. Implants may not be affordable for patients with a poor socioeconomic status. Customized acrylic resin prosthesis is a better alternative for such patients.

CASE REPORT

A 25-year-old male patient with the chief complaint of missing left eye reported to the Department of Prosthodontics. He reported of losing his left eye in an accident two months ago.

Examination revealed evisceration of left eye with healthy socket mucosa (Fig. I). The socket depth was deemed sufficient to retain custom made acrylic scleral shell prosthesis for optimal fit and aesthetics.

Petroleum jelly was applied to the eyebrow, eyelashes and skin around the socket to prevent impression material from sticking to them. Alginate was mixed and loaded into a disposable plastic syringe and expressed into the eye socket under the eyelids (Fig2).

The impression was separated from syringe and invested in type III gypsum stone to make a two-part mould. Molten wax was poured in this mould to obtain scleral wax pattern. It was tried in the patient and checked for proper contour and retention while performing various eye movements.

Using the natural eye as a guide, the shade and size of the iris was selected. The iris was obtained by trimming a commercially available stock eye.

For iris positioning the patient was asked to maintain a straight gaze at an object kept 4 feet away.(Fig.3) Shade was selected as per opposite side sclera. Flasking was done in a two-part metal flask followed by dewaxing, packing and curing (Fig 4). The retrieved prosthesis was trimmed, polished and inserted.

Prior to insertion of the finished prosthesis, it was disinfected using 70% isopropyl alcohol and 0.5% chlorhexidine solution. After thoroughly cleaning the prosthesis with saline solution to prevent chemical irritation, it was inserted and checked for fit, contour, and movements (Fig 5).



Fig-1: Pre-Operative Evisceration Left Eye



Fig-2: Impression made with Alginate Impression Material



Fig-3: Wax trial and Iris positioning



Fig-4: Investing and dewaxing



Fig-5: Final prosthesis

CASE DISCUSSION

Loss of eye has functional, aesthetic and psychological impact on the patient [5]. Rehabilitation of such defects with ocular prosthesis can improve his/her physiological and psychological well-being. A customized ocular prosthesis can be a viable option to such patients. Accurate impression of the contours of the defect site is required for fabrication of the custom made scleral shell prosthesis with a good optimal fit. An ocular prosthesis should replicate correct gaze, shape, and colour of the natural eye [6]. It should prevent collapse or loss of the shape of the lids, accumulation of fluid in the cavity and provides proper muscular action of the lids [7]. A well-fabricated prosthesis not only restores function and aesthetics but also restore patient's self-confidence and psychological health. Characterization helps to address the esthetic concern of the patient.

Hence, removal of the eye followed by management of the anophthalmic socket may require the combined effort of both the Ophthalmologist and Maxillofacial Prosthodontist with the aim to improve the patient's esthetics, restore and maintain the health for the remaining structures and consequently provide physical and mental wellbeing. The use of customized

ocular prosthesis has been an advantage to patients who cannot afford implant prosthesis.

CONCLUSION

The patient's chief complaint of replacing the missing eye has been tended to by using custom acrylic scleral shell prosthesis. The esthetic concern of the patient was also addressed by characterization which was better compared to the stock ocular prosthesis.

DECLARATION OF PATIENT CONSENT

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

CONFLICTS OF INTEREST

There are no conflicts of interest

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Photograph and Publication**

The undersigned hereby authorizes Dr. Varsha Ignatious (Name of hospital or physician) to photograph or permit other persons to photograph Mr. Lalit (Patient's name). The undersigned agrees the photographs may be used for publication in the *Journal of Prosthodontics* subject to the following limitations:

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