



An Eye for an EYE: A Case Report

Dr. Ibadat Jamil¹, Dr. Anish Kapoor², Dr. Neha Srivastava Sahai³, Dr. Saud Ahmad Siddiqui⁴, Dr. Mahrosh Ahmad⁵, Dr. Abhishek Raj Singh⁶

¹Assistant Professor, Department of Prosthodontics, Rama Dental College Hospital and Research Centre, Kanpur, Uttar Pradesh, India

²Associate Professor, Department of Prosthodontics, Maharana Pratap Dental College, Kanpur, Uttar Pradesh, India

³Associate Professor, Department of Prosthodontics, Rama Dental College Hospital and Research Centre, Kanpur, Uttar Pradesh, India (Corresponding Author)

⁴BDS (Intern), Rama Dental College Hospital and Research Centre, Kanpur, Uttar Pradesh, India

⁵BDS (Intern), Rama Dental College Hospital and Research Centre, Kanpur, Uttar Pradesh, India

⁶BDS (Intern), Rama Dental College Hospital and Research Centre, Kanpur, Uttar Pradesh, India

(Received: 07 January 2024

Revised: 12 February 2024

Accepted: 06 March 2024)

KEYWORDS

Eyes,
Maxillofacial
Prosthesis,
Ocular
Prosthesis,
Impression,
Esthetics

ABSTRACT:

Eyes are generally the first features of the face to be noted. The unfortunate loss or absence of an eye may be caused by a congenital defect, irreparable trauma, tumor, a painful blind eye, sympathetic ophthalmia or the need for histological confirmation of a suspected diagnosis. The rehabilitation of a patient who has suffered the psychological trauma of an ocular loss requires a prosthesis that will provide the optimum cosmetic and functional result. This article describes the rehabilitation of an ocular defect by ocular prosthesis in a female patient. Maxillofacial prosthesis increases the patient's quality of life and encourages them to build up their self-confidence to return back to their social life.

Introduction

There are several techniques documented in the literature for fitting and fabricating the artificial eye. Meticulous physical and psychological distress happens due to disfigurement caused by loss of eye. Literature has evidenced that ocular prosthesis is the only mode of rehabilitation for the missing eye.^{1,2} There are various materials and techniques used for the fabrication of the ocular prosthesis. The disfigurement associated with the loss of an eye can cause significant physical and emotional problems. Two surgical procedures are generally used, one is evisceration, which is the removal of the contents of the globe, leaving the sclera and on occasions the cornea in place and the other procedure is enucleation where the eyeball is completely removed. Ocular prostheses are either readymade (stock) or custom made. Stock prostheses are usually advocated when time is limited and cost is a consideration.^{4,6,9} This case report illustrates about the rehabilitation of an ocular defect by ocular prosthesis wherein patient's quality of life is upgraded with overall increase in self confidence.

Case Report

A 48 year old female patient reported to the Department of Prosthodontics for rehabilitation of lost right eye following an accident 1 year back. Examination of the socket revealed good healing; no signs of inflammation, and eyelids were unaffected. Basic history was recorded and diagnosis was finalized accordingly. Medical history was also taken care of for any systemic condition. Previous history of hospitalization was also recorded and considered during treatment planning procedure. Patient was informed about the clinical procedure to be done. Informed and signed consent was obtained from the patient. Patient's personal details were kept confidential and not disclosed elsewhere. Treatment planning included fabrication of Maxillofacial prosthesis using standard clinical procedures and steps.

Procedure

Before taking impression, impression tray was made. Patient was instructed to tilt the head backward,



medium body impression material was injected into the eye socket. Once filled, the patient was directed to move her eyes up and down. This will facilitate the flow of the impression material to all aspects of the socket. After the material was set; the impression was rotated out of the socket. Impression was checked for accuracy and excess material was trimmed. After an acceptable impression of the eye socket has been obtained, it was invested in dental stone. Stone mould was partially split after setting, and impression of the socket removed. Wax pattern was made. Wax was added or trimmed

from the basic scleral pattern outside the socket and replaced until satisfactory contours of the eyelids were achieved both in open and closed positions. Positioning the Iris: The position of contralateral eye's iris was used as a guide, to mark expected position of iris. Heat cured acrylic resin was used to fabricate the definitive eye prosthesis. Prosthesis was inserted into the socket, and checked for any areas requiring adjustment. Esthetics and comfort of the patient were evaluated. The patient was educated to insert and remove the prosthesis (Figure 1-4).



Figure 1

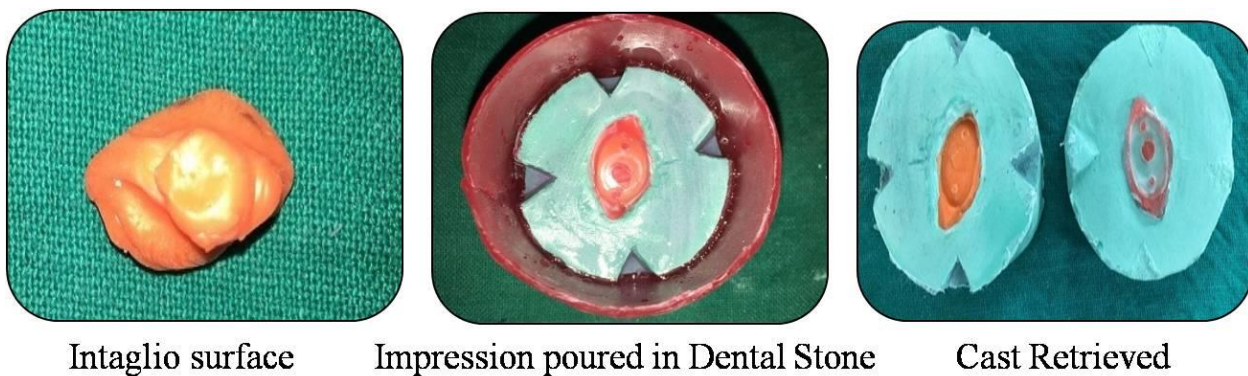


Figure 2



Figure 3

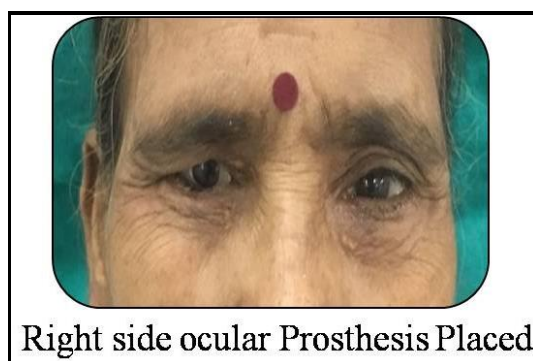


Figure 4

Discussion

As we all are aware that an ocular prosthesis does not provide vision. Maxillofacial prostheses usually restore and replace stomatognathic and related facial structures with artificial substitutes.^{1,2} Maxillofacial prostheses generally directed to enhance the patient aesthetics, restore and maintain health of the remaining structures and therefore offer physical and mental well being.^{3,4} The rehabilitation of a patient who has encountered the psychological trauma of an eye requires a prosthesis which can provide the best possible aesthetics and functional outcomes. Several techniques have been used in the past by several researchers for fitting and fabricating artificial eyes.^{5,6,7} There are various materials and techniques used for the fabrication of the ocular prosthesis. Resin proved to be the better among the available materials. Resin received huge recognition because of its light weight, transparency, improved fracture resistance, easiness of fabrication, easy adjustability, and its capability for intrinsic and extrinsic coloring.^{8,9}

Conclusion

Human eyes are the most vibrant component of the facial expression. Although the patient cannot see with the ocular prosthesis however, it has definitely restored patient's self-esteem and allowed her to confidently face the world. The lifelike appearance of ocular prosthesis and the ability to perform eye movements help to restore the mental health and confidence of the patient.

References

1. Cain JR. Custom ocular prosthetics. *J Prosthet Dent* 1982;48:690-4.
2. Modifying prosthesis with wax. *Monoplex bulletin* no.49. Southbridge (MA): American Optical Corp;1971.
3. Doshi PJ, Aruna B. Prosthetic management of patient with ocular defect. *J Ind Prosthodont Soc* 2005;5:37-38.
4. Mathews MF, Smith RM, Sutton AJ, Hudson R. The ocular impression: A review of the literature and presentation of an alternate technique. *J Prosthodont* 2000;9:210-6.
5. Jamayet N et al. A Complete Procedure of Ocular Prosthesis: A Case Report. *Int Med J* 2013;20:729 - 30.
6. Faris Mohammed Shafi et al. Ocular prosthesis: a case report. *Annals of Prosthodontics & Restorative Dent.* 2016;2(3):92-3.
7. McArthur DR. Aids for positioning prosthetic eyes in orbital prosthesis. *J Prosthet Dent* 1977;37:320-6.
8. Sajjad A. Ocular Prosthesis - A Simulation of Human Anatomy: A Literature Review. *Cureus* 4(12):e74.
9. Kavlekar et al. Light weight ocular prosthesis. *Int J Contemp Med Res* 2016;6:1592-3.