

CASE REPORT

Aesthetic problem solved prosthetically in ocular prosthetic rehabilitation: A case report

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Abstract

A lot of ophthalmic disorders are there which require surgery. Most of the times, they involve the eyeball. An ocular prosthesis is a device designed to reduce the deficiency after surgery. It is also termed as An Artificial Eye. There are many procedures to fabricate an ocular prosthesis. In this clinical report, we are going to find how such a prosthesis can be made with less effort and time. The concerned patient was referred by an ophthalmologist after her surgery. Firstly, an impression was taken using regular body elastomer. After that, the impression was adjusted and sent to fabricate the conformer. Then a formal procedure was followed when fabricating the prosthesis. Iris position, size, shade was selected. The shade of the sclera was also picked

Keywords: Regular body elastomer, Conformer, Cast, sclera and iris.

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Introduction

A defect of the eye is a psychologically devastating condition to a patient. Both functional and aesthetic purpose, it creates a mental pressure to a patient. The aesthetic part can restore externally; the function cannot reestablish. Loss of eye due to trauma, tumor, and infection. Restoration of ocular defect is critical because it heals the social and mental trauma¹. A systematic sequence of clinical and laboratory procedures enables the fabrication and accurate fitting of a customized resin ocular prosthesis. When appropriately designed and characterized, the prosthesis can reproduce the appearance of the natural eye while providing satisfactory stability and durability during long-term use.² Custom fabrication also offers an important advantage over prefabricated ocular replacements because the dimensions, contour, and visual characteristics of the unaffected eye can be reproduced with greater precision.³

For the present patient, an acrylic resin prosthesis was selected for ocular rehabilitation. Compared with conventional glass eyes, acrylic resin prostheses offer favorable aesthetic reproduction together with greater resistance to breakage and satisfactory clinical longevity.² In addition, the relatively low cost, tissue compatibility, and ease of customization of an individually fabricated acrylic ocular prosthesis make it a practical option, particularly when financial considerations influence the choice of treatment.⁴

Case Report

After careful examination, the impression was taken with regular body elastomer. The stock tray was selected to take the impression. After setting, adjust the impression by cutting the irregularities and add some wax if there any deficiency. Sent the impression for cast pore. A Split cast pore technique used for the fabrication of the cast.

After that clear acrylic resin conformer fabricated, then the conformer inserted into the patient eye for adaptation. An opaque variety of acrylic resin used to make the conformer. The intrinsic color of the sclera is incorporate there according to the patient's remaining natural eyes had. Iris position and size were selected in the conformer and create a space for positioning the iris. The remaining area of the conformer is scrapping 2 mm to create space for extrinsic coloration and characterization. The size and shade of the iris were also selected. Iris painted according to the shade of the patient. The painting of capillary and characterization was done. Extrinsic coloration was done accordingly. Laminate the paint with clear acrylic resin. Polishing was done. Finally, insert the eye prosthesis to the patient eye globe.

Discussion

Kenneth et al., fabricate a custom ocular prosthesis by taking an impression with a dental tray with irreversible hydrocolloid impression material³. He applied here almost the same process used in this case except the wax conformer try in the process. A perforated acrylic resin tray was reinforced and connected to a disposable syringe before impression making. This arrangement was used to record the enucleated socket and its surrounding soft tissues. The impression therefore captured the internal configuration of the socket together with the contours of the tissues overlying and surrounding the defect, allowing a more individualized prosthesis to be developed.⁵ Whereas the stock acrylic tray used hereafter tray tried in and checked al detailed either it fits or not.

Prefabricated conformers may require repeated modifications before an acceptable adaptation to the socket is obtained. In contrast, a conformer fabricated specifically for the individual socket can achieve closer contact with the surrounding tissues. Such adaptation may assist the functional interaction of the eyelids with the prosthesis and help maintain tissue activity, whereas an inadequately fitting stock conformer provides less opportunity for this effect.⁵ In the present case, a customized conformer was therefore fabricated and used glass prostheses.⁶ The same material was used for the present rehabilitation.

For impression making, medium-body elastomeric material was loaded into a dispensing gun. With the eyelids gently retracted, the material was introduced into the palpebral opening and allowed to spread throughout the socket. This technique facilitated the displacement of trapped air and lacrimal fluid and permitted the impression material to reproduce the internal socket contours. Material extending beyond the eyelid margins was removed or allowed to extrude externally, while a prefabricated flat tray was positioned over the orbital region to support the impression during setting. The overall approach was comparable to the impression procedure described previously.⁷ A conventional wax try-in was not performed in this case. Following evaluation of the impression, the pattern was modified directly, and wax was incorporated only where additional correction was considered necessary.

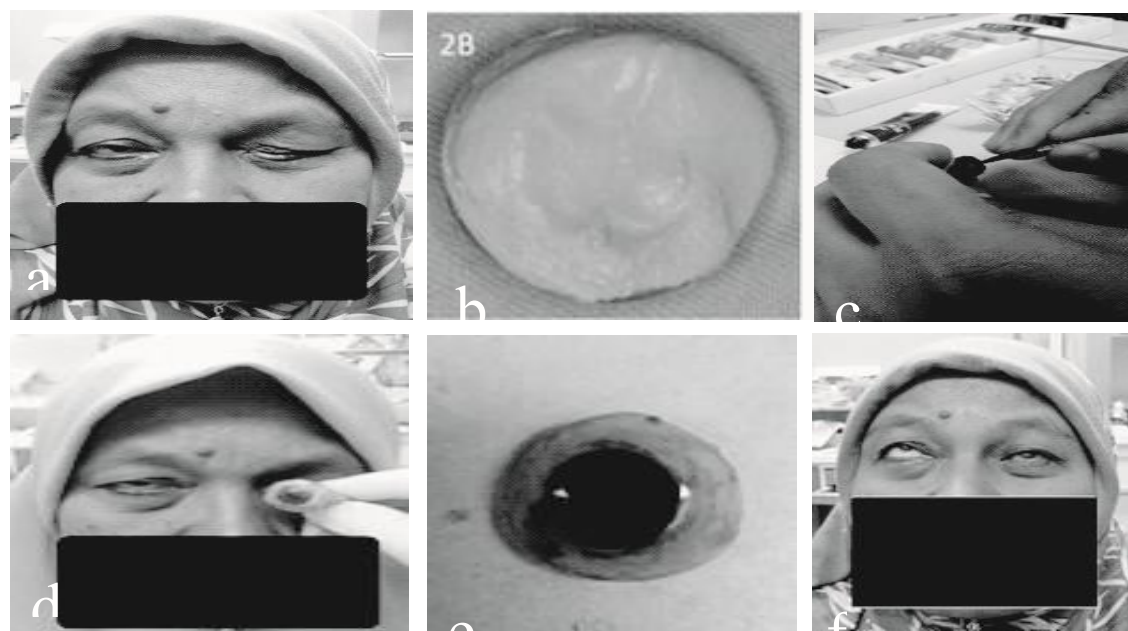


Figure 1: a) Initial condition of the patient, b) Impression taking, c) Painting of iris, d) Shade trying, e) Prosthesis after polishing, f) After insertion

Polymethyl methacrylate (PMMA) was selected as the prosthetic material because of its favorable tissue compatibility, convenient handling characteristics, comparatively low cost, and ability to undergo color modification. Its optical and aesthetic characteristics can also be adjusted during fabrication to obtain a more natural appearance than that generally associated with conventional

Conclusion

The Eye holds immense importance in maintaining anatomical, structural, functional and aesthetics purposes. Any deficiency involving it can be devastating for anyone regarding his or her social conditions. So, it is very important for this kind of patients to re-establish those functions fully as soon as possible. The time and cost must be effective for every patient. For many reasons, this is a standard procedure to fabricate an ocular prosthesis. In this process, the prosthesis forms easily and less time-consuming because after taking the impression it was possible to adjust the wax. So further adjustment was not required in conformer. This prosthesis is also very cost effective. Thus, every patient with ocular deficiency must be evaluated for using this device as it can benefit them immensely by cutting the deficiencies in a very short period of time.

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