CASE REPORT

Ocular Defect management by Custom made ocular prosthesis
Sharanbasappa Nagaral, Arvind Moldi

Abstract
Orbital defects can be satisfactorily repaired with prosthetic replacement. This paper reports rehabilitation of a patient’s enucleated right eye with custom made ocular prosthesis.

Key Words: Custom made; Ocular Prosthesis; Retention; Esthetic

Introduction
Patients requiring treatment with custom ocular prostheses are those who lost ocular structures through orbital evisceration or orbital enucleation. (1) Loss of an eye or a disfigured eye has a far-reaching impact on an individual’s psyche. Additionally it affects one’s social and professional life. Cosmetic rehabilitation with custom made prosthetic devices gives such individuals professional and social acceptance and alleviates problems. (2) This paper reports rehabilitation of a patient’s enucleated right eye with custom made ocular prosthesis.

Case Report
A 20 year old female patient was referred to the department of prosthodontics for an ocular prosthesis. History revealed that the patient’s right eye was enucleated. On examination of the patient it was decided that custom made ocular prosthesis would be the best to meet her esthetics needs. After careful examination of the area of defect the treatment was planned. Patient was explained about the procedure and its limitation.

First petroleum jelly was applied to the eye brows for easy removal of the impression. Using alginate impression material the impression of the right eye was made. Then a special tray was fabricated and rubber base syringe tip was attached to it so to make the impression of eye socket and same was done by slowly injecting the medium body rubber base impression material after making impression careful examination of impression was done. With this impression the approximate size of the stock eye shell was selected. It was matched for the color and esthetic purpose.

After selecting the appropriate size with matching color and shade the artificial eye shell was trimmed for making molding of inner side of eye socket and a match stick or any other stick was attached to the center of the iris so to hold and orient the eye shell while molding process was carried out and inlay wax is used for the molding process. The inlay wax is added layer by layer and asked the patient to do the all eye movements so that the inner surface of the eye socket was recorded properly and little artificial eye movement which gives a natural look as much as possible Once the surface molding was satisfied with eye movement and position of the eye shell it was shown to the patient for her satisfaction. Flasking and dewaxing was done carefully in two-split flask (small) and heat cure acrylization is carried out for final prosthesis. After curing the prosthesis was recovered. The prosthesis undergoes a final examination, is cleaned and disinfected and prepared for delivery (Figure 1-10).

The patient was instructed to clean the prosthesis by professionals twice yearly. Even with excellent maintenance, the tissue around prosthesis can change and the custom artificial eye can absorb body fluids over period of time, so for this reason most of the patient after 3 years will go for new one.

Figure 1-10. Pre-operative view, steps for the making of prosthesis, post-operative view.
Discussion
The history of use of artificial eye date goes back to 2900-2800BCE, a woman found with ocular prosthesis in shahr-sokhta Iran.(2) Before World War II, the glass eye was the most popular eye manufactured. One of the pioneers to use glass eye was Ambroise Pare (1510-1590) in 1944 Murphy and nirronen fabricated physiologic ocular prosthesis in dental corps of US Navy.(3)

Ow and Amrith says that the custom-made acrylic resin ocular prosthesis achieves intimate contact between prosthesis and tissue bed. The close adaptation of the custom made prosthesis tends to distribute pressure more equally than does stock eye prosthesis. This helps reduce the incidence of conjunctival abrasion or ulceration. It also enhances tissue health by reducing potential stagnation spaces at the prosthetic tissue interface. Fluid collection in the space could cause tissue irritation and increase bacterial growth.(1, 4-6) Using implants can enhance the prosthetic rehabilitation which can co-ordinate the movements with natural eye, but not always possible and feasible also. Custom made eye prosthesis not only helps the patient esthetically but also boon the patient psychologically state of the mind and also provides better results functionally.

Conclusion
Always it is better to go for custom made rather than the stock or implant supported eye prosthesis. As with custom made eye prosthesis the esthetic and functional outcome of the prosthesis was far better than the stock eye prosthesis. Even this can be done at affordable price which is boon to the patient who cannot afford for implant. This conventional method is most widely followed method all over India even though there are many treatment options are available.

Authors Affiliations: 1. Dr. Sharanbasappa Nagaral, MDS, Professor, Dept. of Prosthodontics, Al Badar Dental College, 2. Dr. Arvind Moldi, MDS, Professor, Dept. of Prosthodontics, HKE’s S.N. Dental College, Gulbarga, Karnataka, India

References

Address for Correspondence
Dr. Sharanbasappa Nagaral, MDS, Professor, Dept. of Prosthodontics, Al Badar Dental College, Gulbarga, Karnataka, India.
Email: yesnagaral74@gmail.com
Ph: 0091.9880229294, 0091.9449468130

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