



MODIFIED STOCK OCULAR PROSTHESIS- A SIMPLE METHOD TO REHABILITATE AN OCULAR DEFECT

Prosthodontics

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ABSTRACT

Surgical removal of an infected eye can lead to various emotional and physical problems for the patients. A well- fitting and esthetic ocular prosthesis is necessary for such patients, thereby improving their facial features and providing psychological confidence. This article describes the case report of a patient with enucleated eye socket who was treated with the fabrication of modified stock ocular prosthesis.

KEYWORDS

ocular prosthesis, impression, ocular defect.

INTRODUCTION

Disfigurement of facial features following the loss of one's eye can lead to various emotional and physical problems.¹ Surgical removal of orbital contents is performed in cases of malignancy, intra-ocular infection and irreparable trauma.^{2,3} An ocular prosthesis replaces the missing contents of the eyeball.

Paymen classified the surgical procedures into three types;

1. Evisceration- Removal of intra-ocular contents of the eyeball.
2. Enucleation- Removal of eyeball along with optic nerve.
3. Exenteration- Removal of entire contents of the eyeball along with the muscles, nerve as well as eyelids and eyebrows.³

Ocular prosthesis is an artificial replacement of the intra-ocular contents following an eviscerated defect.

Such prosthesis can be prefabricated or custom-made. This article describes a case report of a patient with eviscerated ocular defect who was treated with modified stock eye prosthesis.

Case Report:

A 50 year old male patient had reported to the Department of Prosthodontics with the complaint of replacing the existing ocular prosthesis. The medical history revealed that the patient had undergone evisceration of the right eye due to septicemia resulting from trauma with a sharp material around 6 years ago. Patient was wearing a stock ocular prosthesis for a period of 6 years. The existing prosthesis was worn out and discoloured. The treatment plan was to replace the existing prosthesis with a new, modified stock ocular prosthesis. An informed consent was taken for this procedure.

On examination, the tissues were non-inflamed, adequately healed eviscerated right ocular defect was noted. Adequate depth of upper and lower palpebral fissures was appreciated. The movements of the retained musculature were present, but reduced.



Figure 1: Patient with right eye eviscerated

Impression of the tissue surface of the defect was made with light body impression PVS material using a custom impression tray; following method given by Webster and Allen.⁴ A self-cure clear acrylic conformer was fabricated using the putty replication of the existing prosthesis. The conformer was perforated at the centre for attaching a 5ml syringe. The syringe served as an easier and more efficient way to record the tissue surface. Additional perforations were done in order to reduce the compression of ocular tissues.

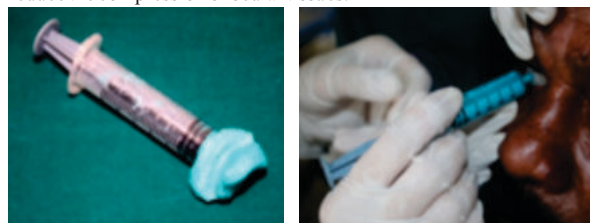


Figure 2: PVS Impression with conformer and syringe

After the impression was set, it was removed. A putty index was made of it and then a wax pattern was fabricated. Iris orientation was done using scribing vertical lines along the midline of the contralateral eye and face, lines mediolaterally along inner and outer canthus of eye. A stock ocular prosthesis was compared with the contralateral eye. The prosthesis fit comfortably within the socket, it allowed for complete closure of eye and the colour of the iris accurately matched with the normal eye. To ensure adequate depth, the prosthesis was modified using paraffin wax; thereby duplicating the tissue surface of the defect. The prosthesis was flaked, dewaxed and cured using heat cure clear acrylic resin. The prosthesis was deflaked, trimmed and polished. It was checked for smooth margins, comfort for the patient and esthetics. The patient was educated regarding the maintenance and hygiene of the prosthesis. The patient was encouraged to use a pair of no-power glasses to camouflage as well as protect the prosthesis.



Figure 3: Patient with newly fabricated right stock ocular prosthesis

The patient was recalled 24 hours following insertion as well as one, three and six months post-insertion.

DISCUSSION:

When restoring an ocular defect, a maxillofacial prosthodontist is met with a challenge of providing a close and life-like adaptation of a mobile sense organ with a static prosthesis.

A well-fitted prosthesis should;

1. Provide gaze and orientation similar to the normal eye.
2. Provide comfortable closure of the eyelids,
3. Retain the shape of residual socket.
4. Prevent collapse of eyelids
5. Prevent fluid accumulation in the cavity.⁵

The above case report described an easier, yet successful rehabilitation of the defect, using a modified stock ocular prosthesis. The prosthesis modified with this method had a smooth glossy finish.

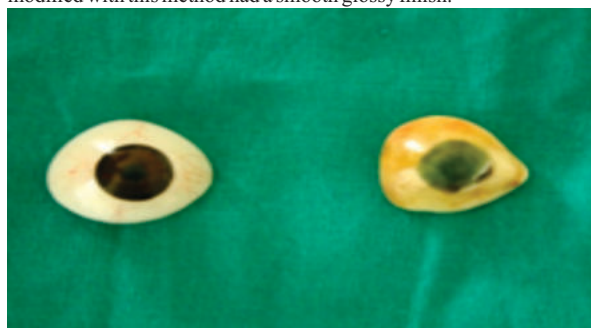


Figure 4: The new prosthesis(left) compared to the old one(right).

The patient was satisfied with the esthetics as well as comfort of the prosthesis, thus enabling him to develop more psychological confidence.

CONCLUSION:

A modified stock eye prosthesis can provide a cost-effective as well as easier alternative to customized prosthesis. Even though, the prosthesis does not provide vision to the patient, it acts an important esthetic component that uplifts psychological health of the patients.⁶

Declaration of Patient Consent:

The authors certify that they have obtained all appropriate patient consent forms. In the form patient has given his consent for his images and other clinical information to be reported in the journal. The patient understands that his name and initials will not be published and due efforts will be made to conceal identity.

Conflicts of Interest:

There are no conflicts of interest.

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