**CASE REPORT**

**Ocular Prosthesis Made Easy A Case Report**

Adarsh N, Pradeep Suresh B S, Yogesh RB, Rachana KB

**Abstract**

Facial disfigurement can affect a person’s personality especially during childhood, to a great extent. Maxillofacial prosthesis helps in rehabilitating such cases and makes them socially acceptable. A case report of rehabilitation of 9 year old girl with enucleated right eye socket is presented here.

**Key Words:** Ocular Prosthesis; Enucleation; Scleral Pattern; Iris Disc; Eye Socket.

Received on: 21/11/2010 Accepted on: 21/12/2010

**Introduction**

A person’s face is the source of much information. It shows emotion, it can demonstrate intellect; it is a vehicle for communication. Head and neck surgery can be mutilating and disfiguring and can deeply affect how individuals feel about themselves. The disfigurement resulting from loss of an eye can cause significant psychological as well as social consequences. The goal of any ocular prosthetic procedure is to present the patient to the society with a normal appearance. However, with the advancement in ophthalmic surgery and ocular prosthetics, an ophthalmic patient can be rehabilitated very effectively.

The surgical procedures in the removal of an eye are classified into three categories, namely evisceration, and exenteration. After enucleation, a plastic conformer and corticosteroid antibiotic ointment is placed in the socket. The plastic conformer is left in place for 4-6 weeks to reduce edema and maintain the socket contours for a prosthetic eye. When surgical site is well healed and dimensionally stable, fabrication of an ocular prosthesis may be undertaken. Early management of anophthalmic socket prevents loss of volume in the anterior orbital area and facial asymmetry.

Various methods of rehabilitating an anophthalmic socket include, a) stock eye prosthesis (Prefabricated), b) custom made ocular prosthesis. In this case report an easy and economical method of fabricating an ocular prosthesis, is described.

**Case report**

A nine year old girl reported with a complaint of missing right eye (Fig 1). Examination revealed enucleated right eye socket. Examination of the socket revealed healthy conjunctival lining and absence of infection. History revealed surgical removal of the eye ball after a traumatic injury (bull gore). Treatment plan included fabrication of custom made ocular prosthesis. Rehabilitation team included a prosthodontist, a pedodontist and an ophthalmologist.

**Impression making:** Patient was instructed to tilt the head backward, medium body polyvinyl siloxane impression material (Reprosil, Densply Internationals, lot no-090120) was injected into the right eye socket. Once filled, the head was moved back to the vertical position and 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. Patient was asked to look at a distant spot at eye level with her gaze maintained in a forward direction.

After the material was set, cheek, nose and eyebrow regions were massaged to break the seal. While the patient gazed upwards, the cheek was pulled down and the inferior portion of the impression 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 irreversible hydrocolloid (Algite, DPI, batch no-298, Feb 2009) in a small medicine cup. Irreversible hydrocolloid mould was partially split after setting, and impression of the socket removed. The space left in the mold was filled with molten baseplate wax to fabricate a scleral wax pattern. Wax pattern was finished and polished.

The fit of the pattern was observed by placing it in the socket and lifting the eye lids. 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 on a wax pattern. Prefabricated eye shell matching the patient’s natural iris in color and size was selected. Iris portion of this shell was separated by trimming away the scleral portion with the help of a bur. Wax was scooped out from the area for iris marked on the wax pattern and the iris disc was placed in that position. Care was taken to blend the surface of the iris disc with the rest of the scleral wax pattern.

Trial: After the placement of iris disc, the wax pattern was highly polished and tried in the socket. Position, gaze and esthetics of the iris were established by comparing with the natural eye.

Flasking and curing: Wax pattern with iris disc was flanked in a crown flask to create a split mold. Dewaxing was done and the iris disc was replaced in its position and secured with the help of glue. Tooth moulding heat cured acrylic (tooth moulding powder, DPI, batch no-792, 2009) of appropriate shade was mixed and packed into the mold. Processing was done using short curing cycle. After processing prosthesis was recovered, preserving the split mold. 0.5–1mm of the surface layer of scleral portion was trimmed. Nylon fibrils separated from denture acrylic resin polymer were used to mimic veins. This was covered with heat cured clear acrylic resin and was processed in the same mold which was preserved after acrylization. This helps to give life like appearance and depth for the characterization. After processing, prosthesis was recovered. It was finished and polished to a high shine, disinfected and stored in water for 24 hrs before insertion.

Insertion: 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. Ophthalmic lubricant was advised for lubrication. A pair of plain glasses was advised to make prosthesis more inconspicuous (Fig2).

Discussion
Although the effects of enucleation in early childhood on facial symmetry and orbital volume are still debated, advantages of ocular prosthesis in a school going child extends beyond esthetics. It helps in building confidence in the child, makes them more acceptable to their peer group and help in developing their personality. Although the prosthesis cannot restore the vision but it reduces the psychological trauma of being without an eye.

Authors Affiliations:
1. Dr. Adarsh N, M.D.S, Reader, Department of Prosthodontics, Govt Dental College, Bellary, 2. Dr. Pradeep M.D.S, Associate Professor, CODS, Manipal, 3. Dr. Suresh B.S M.D.S, Professor, Department of Pedodontics, Sharavati Dental College, Shimoga, 4. Dr. Yogesh R. B, Associate Professor, Dept. of ophthalmology, VIMS, 5. Dr. Rachana K.B., M.D.S, Assistant Professor, Dept. of Prosthodontics, Govt. Dental College, Bellary, Karnataka, India.

References

Address for Correspondence
Dr. Adarsh N, M.D.S., Department of Prosthodontics, Government Dental College, Bellary-583103, Karnataka, India.
Email: adarsh76in@yahoo.co.in

Source of Support: Nil, Conflict of Interest: None Declared