Abstract
Facial defects resulting from neoplasm, congenital malformation or trauma can be restored with facial prosthesis using different materials and retention methods to achieve life-like look and function. The replacement of lost parts caused by ablative cancer surgery is never easy to achieve by reconstructive surgery, especially when the initial operation is extensive and destructive. Restoration of large facial defects is a challenge both for the maxillofacial plastic surgeons and maxillofacial prosthodontists. Prosthetic rehabilitation can be preferred due to probability of recurrence, complexity of the surgical reconstruction procedure, radiation therapy, esthetic importance and it is easy to reproduce the former shape, size and color of the tissues.

A nasal prosthesis can re-establish esthetic form and anatomic contours for mid-facial defects, often more effectively than by surgical reconstruction as the nose is relatively immobile structure. For successful results, lot of factors such as harmony, texture, color matching and blending of tissue interface with the prosthesis are important. The aim of the presented case report is to describe the non-surgical rehabilitation, with RTVsilicone, nasal prosthesis for a patient who received total rhinectomy as a result of squamous cell carcinoma of the nose. The prosthesis was made to restore the esthetic appearance of the patient with a mechanical retained design using a spectacle glass frame. “It is the God given right of every human being to appear human”

Facial defects result in multiple functional and psychosocial difficulties. Surgical reconstruction techniques, prosthetic rehabilitation or a combination of both the methods to restore these facial disfigurements may improve the level of function and self-confidence for patients.

Key words: Nasal Prosthesis, Maxillo facial Defect, nasal carcinoma, facial defect rehabilitation.

INTRODUCTION:
The Glossary of Prosthodontic Terms defines Maxillofacial prosthetics as, “The branch of prosthodontics concerned with the restoration and/or replacement of the stomatognathic and craniofacial structures with prostheses that may not be removed on a regular or elective basis.” Through the face we communicate with the outer world, basis for judgement of attractiveness. Any damage to the face or its parts due to carcinoma or trauma is not well tolerated. With the loss of facial parts like eye, ear, nose, etc. there is not only functional damage but also psychological damage thereby affecting the total quality of life. As the father of Indian surgery Sushruta Samhitha said hundreds of years ago, “The love of life is next only to the love of our life and thus the mutilated cry for help.” Hence in this appearance conscious society of ours, it is virtually mandatory now to have a reasonably pleasant appearance, to be accepted. Thus, people having severely disfigured or missing parts of the maxillofacial skeleton or the face in particular come for a normal appearance by artificial restorations to us.

Restoration of facial defects is a difficult challenge for both the surgeon and the prosthodontist. Both surgical reconstruction and Prosthetic restorations have distinct limitations. The surgeon is limited by the availability of tissue. The compromise of the local vascular bed by radiation in tumor patients. The need for periodic visual inspection of an oncological defect. The physical condition of the patient.

The most important objectives of maxillofacial prosthetics and rehabilitation include:
Restoration of esthetics or cosmetics appearance of the patient.
Restorations function.
Protection of tissues.
Therapeutic or healing effect.
Psychological therapy.
The first well-documented account of facial prosthetics is provided by Ambroise Pare (1509-1590), a French military surgeon now remembered as the father of facial prosthetics. Tycho Brahe (1546-1601) is the first documented person that had a facial prosthesis. He had a golden plate shaped into a nose to cover his defect.

CASE REPORT:

A 37-year-old, female patient reported to the Department of Prosthodontics, Government Dental College and Hospital, Chennai, with a nasal defect. The nasal defect was a postsurgical one following total rhinectomy for squamous cell carcinoma. The defect extended superiorly to the root and inferiorly to the base of nose and laterally short of the nasolabial fold. Patient was seated in a semi-erect position. Nasal passage blocked with gauze. Light body impression material (Aquasil) was injected using disposable syringe. The special tray was also loaded with light body material & the defect was recorded together with the surrounding tissue. A pick up impression was taken using irreversible hydrocolloid. Impression was then poured with dental stone to be effective. The nasal prosthesis must reproduce the contour and texture of the resected nose. Another important factor is the placement and camouflage of the lines of junctures.

Presurgical facial cast- if available wax duplicate of the nasal portion is adapted to the cast of the post surgical defect. Donor technique can be used. Stippling was done more prominent on the tip and nostrils. The oriented wax trial prosthesis was reviewed to assess potential areas for retention. Texture of the tissues and the relevant contours were evaluated on the patient face, especially the border areas of the wax prostheses.

After patients acceptance the wax model was subjected to dewaxing and was then processed using medical grade silicon material with intrinsic colouring which was taken in consideration according to the patient skin colour. Extrinsic water resistant coloration was done to enhance further and match with the skin tone of the patient.

Advantages:
Better tissue tolerance, Non-invasive technique of placement, Aesthetically satisfactory, Comfortable to use, Simplified fabrication, Easy to clean, Lightweight

Disadvantages:
Poor edge strength, Costly

Discussion

Plastic and reconstructive surgery is definitely a treatment choice for patients with facial defects, but for larger defects with extensive anatomical loss, a more suitable alternative is prosthetic rehabilitation. Different methods come with their own limitations- implants cannot be used in children and unpredictable tumour sites, adhesives may be irritating and damage the margins during removal of the prostheses. In this large and extensive defect, which did not have much tissue support, the facial prosthesis made in silicone gave satisfactory results because of its reduced weight, convenience of cleaning and developed shade and texture. The objective in treating such patients is to restore the lost natural tissue after surgery so as to maintain appearance, morale and confidence of the patient and to facilitate social acceptance among the public and their families, which these patients from maxillofacial malignancies lack.

RECENT TRENDS IN MAXILLOFACIAL PROSTHETICS

New technologies offer- standardized quality, outstanding bio-compatibility, combined with adequate mechanical strength and provision for esthetic design. The introduction of laser technology, 3-D computer aided designing (3-D-CAD) and computer aided manufacturing (CAM) also known as rapid prototyping (RP) or free form fabrication has revolutionized the field of maxillofacial technology. Biological improvements and the regenerative possibilities for regaining lost bone have shown continued advancement - for accurate implant placement. Color matching of facial prosthetic elastomers to skin. Portable spectrophotometer and Computerized color formulation has been developed. Interestings challenges are provided by robotics in the development of active prosthesis such as blinking and moving eye. Tissue engineering involves regeneration of new tissue with biologic mediators or scaffold. Much research is being carried out in the field of muscular and neural tissue regeneration, which may have an impact in orofacial reconstruction in the future (Fearraigh, 2009).

CONCLUSION:

It is advocated that lack of highly sophisticated equipment and materials should not be a limiting factor in the rehabilitation of the sufferings of these fellow human beings. Even, simple available materials like acrylic resins, silicones and polyether can be extremely helpful in the fabrication of maxillofacial prostheses if facilities like CAD-CAM or maxillofacial implants are not accessible. These simple removable options can be extremely cost effective, conservative and without aggressive side effects, so they are enthusiastically accepted by the patients and their relatives. However, a thorough patient evaluation is always mandatory, to determine the quality of restorations required as many times these simple, removable options may also jeopardize the socioeconomic and personal comfort of the patient. In these cases, referral to more advanced and sophisticated treatment modalities should always be considered.
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