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Dr. Pushkar Dwivedi
Department of Prosthodontics,
People's College of Dental
sciences & research centre,
Bhopal, M.P., 462023, India.

Dr. Swapnil Parlani
Department of Prosthodontics,
People's College of Dental
sciences & research centre,
Bhopal, M.P., 462023, India.

Dr. Surendra Agrawal
Department of Prosthodontics,
People's College of Dental
sciences & research centre,
Bhopal, M.P., 462023, India.

Dr. Anjali Bhojar
Department of Prosthodontics,
People's College of Dental
sciences & research centre,
Bhopal, M.P., 462023, India.

Dr. Shubhi Kaushik
Department of Prosthodontics,
People's College of Dental
sciences & research centre,
Bhopal, M.P., 462023, India.

Correspondence:

Dr. Pushkar Dwivedi
Department of Prosthodontics,
People's College of Dental
sciences & research centre,
Bhopal, M.P., 462023, India.

Simplified technique for retaining auricular prosthesis: A case report

Pushkar Dwivedi, Swapnil Parlani, Surendra Agrawal, Anjali Bhojar, Shubhi Kaushik

Abstract

Maxillofacial defects including loss of ear and other parts of face are the result of extensive resection and traumatic injuries. Apart from surgical reconstruction, silicon prosthesis could be the alternative choice which is easier to fabricate and retentive through many ways. The type of retention can be planned on the basis of evaluation of clinical factors and patient compliance factors to give the patient the most compatible method of retention for his prosthesis. Out of these mechanism silicon adhesive is the easier option for the patient as well as for the operator.

Keywords: Surgical reconstruction, Donor technique, Silicon adhesive

1. Introduction

Face is the most important non verbal source of communication, any deformity or absence of facial part (either congenital or traumatic) can bring about functional & psychosocial loss therefore overall rehabilitation through prosthetic replacement of such patients provides professional & social acceptance & improves their quality of life [1]. Auricular defect can result from tumour resection, congenital malformation & trauma. These defects lack hard & soft tissue undercut & prosthetic retention is obtained primarily by the implants or by the use of silicon adhesive [2]. Surgical reconstruction of these types of defects often requires multiple surgical procedures that may continue for several years. In case of total excision of an ear there is less opportunity for prosthetic retention whereas implant retained & adhesive retained can be considered in place of surgical reconstruction. Implant retained may not be a treatment of choice for all cases because of several factors. In such conditions adhesive retained prosthesis could be the ultimate choice.

2. Case report

A 58 year male patient reported to the department of prosthodontics, crown bridge & implantology, P.C.D.S. & R.C. Bhopal with a missing ear. The patient was involved in an accident at a flour mill 5 year back which results in complete amputation of his left ear (figure1). On examination opening of auditory canal was visible in the left ear region, there was no injury or deformity present to the right ear. Different treatment option like reconstruction surgical procedures, implant and other mechanical ways of retained prosthesis were explained to the patient. He refused the surgical procedure and use of spectacles (anatomic-mechanical mode of retention), so adhesive retained prosthesis was planned for the missing ear. The surrounding facial skin and hair near the defect and contra-lateral ear was protected by applying petrolatum gel. The external auditory canal was blocked with gauze to prevent entry of impression material. Irreversible hydrocolloid impression was made on both the sides, by loading the material on the surface and boxed it with wax (figure2&3). Cast were poured with type II dental stone and wax pattern was fabricated over the cast having defect by "Donor technique". The wax prosthesis was tried on the patient and evaluated for the correct fit on the tissue, correct horizontal alignment with the contra lateral ear, projection of the ear in relation to the side of the head and integrity of the margins during movements was checked (figure 4&5). The wax prosthesis was flaked by triple stage technique [3] (figure 6) and dewaxing was done in conventional manner after the proper

cooling of moulds, room vulcanized silicon was mixed and shade was matched with the skin colour of the affected side. After achieving the desired shade as well as patient's satisfaction material was flaked and left for self-vulcanization. After retrieving the prosthesis it was trimmed and delivered to patient with the help of silicon adhesive.

3. Discussion

Loss of external ear can be congenitally missing or acquired due to accidental trauma or malignant disease. Difficulties with facial prostheses may arise due to patient factors such as amount of soft tissue loss, location of the auricular defect, dynamic tissue beds, retentive quality of the area, and associated irritation of the tissue beds. Hence, the choice of rehabilitation depends on meticulous restoration of physical dimensions, external contour, and surface landmarks to ensure satisfactory aesthetic outcomes for the prosthodontist and their patients [4].

There are both surgical and prosthetic ways of rehabilitating these patients. Surgical correction often ended up with multiple appointments and extensive procedure such as graft procedures and cartilagenous reconstruction, which are often intolerable to patient and time consuming to operator apart

from this hygiene compliance can be inconsistent and requires constant monitoring to maintain soft tissue health at implant sites [5]. Financial constraints and apprehensions for surgical interventions. Also, the extra oral implant requires adequate thickness of the bone in the temporal and mastoid regions that may be deficient in certain cases [6]. Many of the patient refuses to use the prosthesis attached with spectacles so in these type of patients silicon adhesive is suppose to be the preferred method of treatment. However, disadvantages of using adhesive-retained auricular prostheses are less retention, allergic reactions to the adhesive and difficult to maintain and problems in orientating the prosthesis by the patient with compromised manual dexterity in the absence of key anatomical landmarks.

The technique indicated here is considering all the possible problems and difficulties with other ways of treating the patient with unilateral or bilateral partial as well as complete defect of ear. Henceforth silicon adhesive retained ear prosthesis is supposed to be easiest and very well tolerated by the patient and simple to fabricate for the dentist

3.1 Figures



(Fig.1)



(fig.2)



(fig.3)



(fig.4)



(fig.5)



(fig.6)



Pre-operative

Post-operative

(Fig. 7)



(Fig. 8)

4. Conclusions

This article emphasizes on the need of a maxillofacial prosthodontist to accurately adapt and perform the correct method of operating a patient with such kind of maxillofacial defect. However, there are many methods of retaining ear prostheses available; silicon adhesive is the easiest way because of its availability and simplicity in use by the patient. The ultimate goal of treating a patient with maxillofacial defect should aim to satisfy him/her with a life-like prosthesis and to regain the social confidence.

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