CASE REPORT

Implant-Retained Auricular Prosthesis: A Case Report
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Abstract
Implant retained prosthesis have been proven to be a predictable treatment option for maxillofacial rehabilitation. This paper reports the management of a patient who lost the right external ear in an accident using an auricular prosthesis.

Key Words: Auricular prosthesis; Implant retained prosthesis; prosthetic rehabilitation

Introduction
Congenital or acquired absence of facial structures caused by malformation, cancer treatment surgery or trauma leads to functional deficits and enormous psychological strain, and therefore requires rehabilitation.(1-4) This paper reports the management of a patient who lost the right external ear in an accident using an auricular prosthesis.

Case Report
A 21-year-old female who lost the right external ear in an accident was referred by her plastic surgeon to the Prosthodontic Clinic. Two 4 mm EO implants were placed for right temporal bone by plastic surgeon (Figure 1). After soft tissue healing and osseointegration is confirmed, 5.5-mm abutments were inserted. Hair adjacent to the ear was coated with petroleum jelly, placed cotton in the ear canal. Impression of the auricular defect was made with polyvinyl siloxane impression material. The impression is boxed and poured in die stone.

An ear pattern was created using the “opposite side.” The prepared wax pattern was then adapted to the stone cast. The whole morphology of the cast was corrected (Figure 2). Gold cap were connected to abutment replicas on the cast. Gold bar was cut to size and sections were positioned appropriately using small amounts of silicone putty. The sections of gold bar to the gold cap were fixed using cyanoacrylate adhesive. The bar invested in soldering investment. After soldering, the assembly is freed from the investment. Two retention clips were positioned on the gold bars, and fabricated an acrylic substructure. Acrylic substructure into the ear wax pattern was incorporated. Wax pattern between the patient and cast for accuracy of fit, orientation, and esthetics with the patient in the physiologic rest position was verified. Wax pattern was placed into a flask and conventional procedures for wax elimination of the mold were followed. After the complete removal of wax, the silicon elastomer, which was colored intrinsically was then bulk filled, and the material was processed according to the manufacturer’s directions. After processing, the prosthesis was removed from the mold; excess flash from the anterior margin of the prosthesis was cut. The remaining excess was trimmed after the prosthesis was evaluated on the patient. The final corrections were made, and the silicon prosthesises were then adapted to the defect area.

Discussion
Auricular reconstruction is a challenging task for surgeons since it is a field of facial plastic surgery in which a wide array of reconstructive options often must be considered.(4, 5) Prosthetics have become available and have been developed into functional and esthetic alternatives to plastic and reconstructive surgery. Since the introduction of percutaneous endosseous implants for use with bone conduction hearing aids in 1977, implants also have acquired an important role in the prosthetic rehabilitation of patients with craniofacial defects.(4, 6) Prosthetic reconstruction of these structures, using cranial implants, provide an alternative approach towards rehabilitating patients with severe auricular defects.(7) This has become a viable option that can offers several advantages over traditional reconstructive techniques.(8)

Implants may provide patients with a safe and reliable method for anchoring auricular prostheses that enables restoration of their normal appearance and offer an improvement in their quality of life.(8) In this case report, an auricular prosthesis was fabricated for a patient who lost the right external ear in an traffic accident. Extraoral implants and bar-and-clip retention for the proper...
connection of the auricular prosthesis to implant were used.(8) Prostheses anchored by osseointegrated implants seem to provide better retention than do prostheses supported on spectacle frames, less risk of discoloration through the use of adhesives and better esthetic results than do prostheses anchored in the surgical cavity.(4, 9, 10)

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References

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