

Case report:

Prosthetic rehabilitation of a microtia patient by adhesive retained auricular prosthesis: A dental technique.

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Abstract

Introduction: Auricular deformity can be emotionally traumatising and affects social behavior of an individual. In such cases, aesthetically acceptable prosthesis serves as a viable alternative technique to surgical reconstruction. **Case description:** Impression of the auricular defect was taken by light and regular body of poly vinyl siloxane impression material. Wax sculpting was challenging due to the bulgy remnant of the defected ear. The wax pattern was made very thin to accommodate and mask the remnant without compromising the aesthetic. Trial on the patient was done for correction of the contours, angulation, height and width according to the normal contralateral ear. The intrinsic coloration of a Room Temperature Vulcanizing silicone was done and poured in a custom-made three-piece mold. Before the final issue of the auricular prosthesis, extrinsic coloration was done based on the surrounding area of the defect.

Discussion: Fabrication of adhesive retained prosthesis is challenging in patients with large deformed soft tissue who refuse to undergo surgical repair. A modified wax sculpting was done to overcome this challenge. Medical grade silicone was the choice of material because of its flexibility, biocompatibility and life like appearance. **Conclusion:** Replacement of missing ear is a difficult and multi-step task in which extensive array of materials and techniques need to be employed. This fabrication technique is alternative to surgical repair with the utilization of available and economical materials.

Keywords: Ear prosthesis; Microtia; Ear defect; Silicone prosthesis; facial prosthesis; facial defect

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Introduction

An auricular defect can be caused by any of the several conditions, including Trauma, congenital malformation, or surgical removal of a neoplasm. These maxillofacial deformities can be emotionally traumatizing and affects social behavior of an individual¹. A decision on surgical or prosthetic

replacement should be made only after the patients have had all the advantages and disadvantages of both methods thoroughly explained. In such cases, where patient doesn't suit for surgical reconstruction, aesthetically acceptable prosthesis serves as a viable alternative technique for the replacement².

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Case description

1. An 18-year-old boy was brought to our hospital with a chief complaint of missing right ear. After examination the case was diagnosed as Microtia. After discussion with patient and parents, treatment was planned for auricular prosthesis.
2. Impression of the auricular defect was taken by light and regular body of poly vinyl siloxane impression material.
3. Impression of contralateral ear was taken, and model was prepared for the guideline during wax sculpting, which will facilitate on the determination of size and esthetic of the prosthesis.
4. After clinical examination and discussion with patient, decision was made to cover the bulgy part by prosthesis.
5. The wax pattern was made very thin to accommodate and mask the remnant without compromising aesthetic. However, a minimum thickness was maintained during sculpting, considering the longevity of finished prosthesis from tearing. In the bulgy area, wax pattern was made very smooth to avoid trimming on final prosthesis.
6. Trial on patient was done for correction of the contours, angulation, height and width according to the normal contralateral ear. (Emphasis was given on the bulgy part of the prosthesis, where wax was very thin).
7. Three-piece mould was prepared.
8. Based on surrounding natural skin color, basic intrinsic coloration was mixed with RTV silicone (A-2000, Factor II) and poured in the mould.
9. After 72 hours in bench press, extrinsic coloration was done based on the surrounding area of the defect.
10. Retention of the prosthesis was achieved by adhesives (Daro, Factor II).

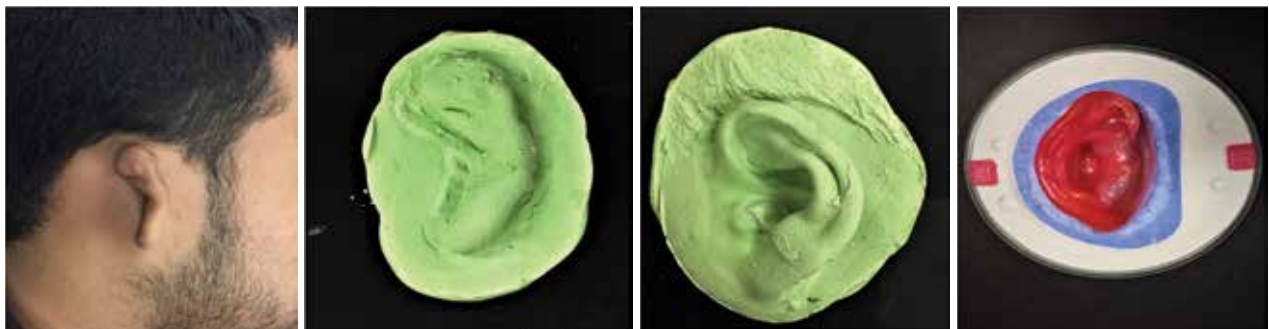


Fig.1: Auricular Defect. Fig.2: Stone cast of the defect ear. Fig.3: Stone cast of the opposite ear. Fig. 4: Wax pattern of the prosthesis.



Fig.5: Silicone loading. Fig.6: Final prosthesis with intrinsic coloration. Fig.7: Final prosthesis with extrinsic coloration. Fig. 8: Auricular prosthesis, view from right side.



Fig. 9: Contralateral ear, left side. Fig. 10: Auricular prosthesis view from posterior

Discussion

Prosthetic rehabilitation is the most conservative method of correcting auricular deformity. Fabrication of adhesive retained prosthesis is challenging in patients with large deformed soft tissue who refuse to undergo surgical repair³. A modified wax sculpting was done to overcome this challenge. Medical grade silicone was the choice of material because of its flexibility, biocompatibility and life like appearance. Replacement of missing ear is a difficult and multi-step task in which extensive array of materials and techniques need to be employed. This fabrication technique is alternative to surgical repair with utilization of available and economical materials.

Conclusion

Rehabilitation of facial deformity by facial prosthesis useful and lead to improved levels of function, appearance, and confidence in patients.

Ethical Approval: Consent has been taken.

Conflict of interest: The authors declared no conflict of interest

Authors' contributions:

Case management: MI, AMR, NBJ

Study design: MI, AMR, NBJ, ZR, AH

Data gathering: MI, AMR, NBJ, ZR, AH

Writing and submitting manuscript: MI, AMR, NBJ, MKA, ZR, AH

Editing and approval of final draft: MI, AMR, NBJ, MKA, ZR, AH

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