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## **Case Report**

# Hair band retained prosthetic reconstruction of bilaterally missing ears: A case of congenital atresia of external auditory canals and pinna



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#### ABSTRACT

Introduction: Auricular defects present reconstructive challenges, especially if they are bilateral. Surgical reconstruction provides effective results for defects; however for some patients surgical intervention is contraindicated. This case report describes an easy clinical technique to rehabilitate a patient with auricular defects. The prime purpose of this treatment rendered was to restore the lost auricular structure to the patient's satisfaction in an elegant, comfortable and cost effective manner.

Patient: A thirteen year old female patient, who had bilaterally missing ears, was referred with a chief complaint of discomfort caused due to her existing hair band prosthesis and unsatisfactory esthetics. There was constant formation of ulcers at the site where the prosthesis came in contact with the skin. Considering the patient's age, ease of use and economic status, hair band retained ear prosthesis was selected. Silicone ear prostheses were fabricated on acrylic substructure to ensure fit, esthetics. Beneath the acrylic plates, a thin layer of soft silicone material was attached. The ear prostheses of both sides were connected with a metal hair band to retain.

Discussion: The newly fabricated prosthesis overcame the limitations of the existing one. The patient and her parents were satisfied with the results.

Conclusion: The hair band retained silicone ear prosthesis is esthetic, economical and easy to use as a facial prosthesis. The addition of soft liner provided a cushion-like effect, thus reducing the formation of any ulcers due to pressure.

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#### 1. Introduction

In today's image conscious society, quality of life is severely compromised by physical defects, especially involving orofacial region. Auricular defects range from minor deformities to complete anotia, due to congenital or acquired reasons [1–6]. Prosthetic reconstruction has evolved into becoming an established alternative to techniques using autogenous tissues [7–9]. Requirements of an ideal prosthesis are esthetics, retention, stability [10,11], along with correct alignment and positioning, biocompatibility and longevity.

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Fig. 1 – (A) Old right ear prosthesis with BAHA implant behind. (B) Old left ear prosthesis. (C) Right side defect. (D) Left side defect.

Replacing missing organs is a challenge, however maxillofacial prosthesis drastically improves the appearance of affected individuals [12]. The use of silicone materials in maxillofacial prosthetics combined with precision and skill makes it possible to achieve substantial results in terms of rehabilitation. An auricular prosthesis replaces the missing ear. This case report describes the fabrication of a hair band retained, bilateral silicone auricular prosthesis.

#### 2. Case report

A thirteen year old female patient was referred to the Department of Prosthodontics of Sri Ramachandra University, with a chief complaint of discomfort caused due to her existing prosthesis and unsatisfactory esthetics (Fig. 1A and B). The patient had bilaterally missing ears at birth with hearing loss (Fig. 1C and D). She was diagnosed with congenital atresia of bilateral external auditory canal and pinna. The hearing function was restored by placement of a cochlear implant

(Bone Anchored Hearing Aid, BAHA) in the right ear (Fig. 1A). Any other systemic disease was not elucidated in her medical history. She was using a hair band retained prosthesis for the past two years, however was dissatisfied with it as there was constant formation of ulcers, at the site where the prosthesis came in contact with the skin.

## 2.1. Treatment plan

Considering the patient's age, ease of use and economic status, similar hair band retained ear prosthesis was selected. We expected the treatment could alter her complaint, which was kept in mind. Accordingly patient was informed about the treatment procedure and expected outcome. A written consent was obtained from the patient's parents.

#### 2.2. Treatment procedures

The patient was made to sit with her head tilted to one side, to gain access to the defect. The area was cleaned and dried. To

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