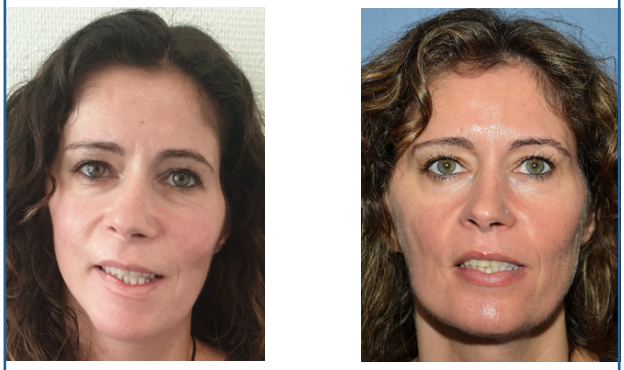
Prosthetic Rehabilitation for Ear Reconstruction and Facial Symmetry Management in Hemifacial Microsomia: A Case Report

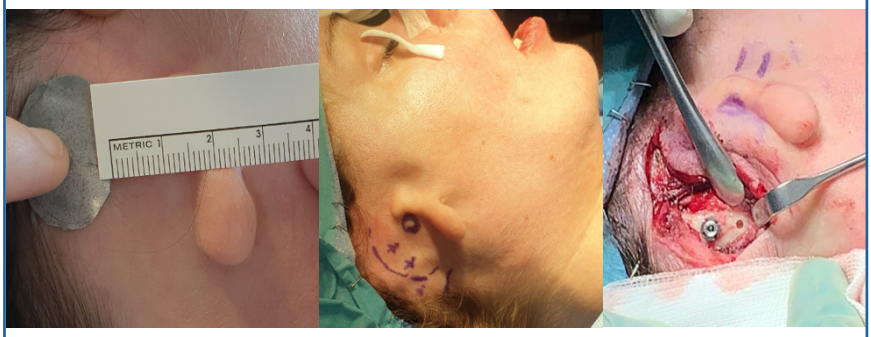
Torres V. [1], May L. [1], Broome M. [1], Kamdem B.[1]
[1]Department of Oral and Maxillofacial surgery, CHUV Lausanne, Switzerland

Background / Aim:
Hemifacial microsomia (HFM), the second most common congenital craniofacial anomaly after cleft lip and palate, varies in severity from mild asymmetry to major deformities affecting the mandible, soft tissues, orbit, ear, and facial nerve. Ear reconstruction in severe microtia is especially complex; while surgery is often used, bone-anchored auricular prostheses offer a valuable alternative in selected cases.



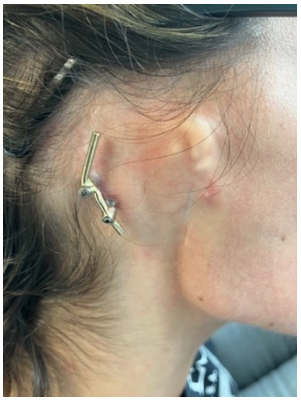
Before and after orthognathic surgery and placement of a custom titanium mandibular prosthesis and autologous cheek lipofilling

Patient and Surgical Management:
This case report details the rehabilitation of a 43-year-old woman with right-sided hemifacial microsomia and grade III microtia, marked by the absence of the auricle and a displaced lobule. She had both aesthetic and functional concerns, including auricular and mandibular hypoplasia and a tilted occlusal plane. Treatment included a bimaxillary osteotomy with genioplasty using patient-specific titanium plates, followed by placement of a custom titanium mandibular prosthesis and autologous cheek lipofilling. For ear reconstruction, two craniofacial implants were placed in the mastoid area to support a customized silicone auricular prosthesis.

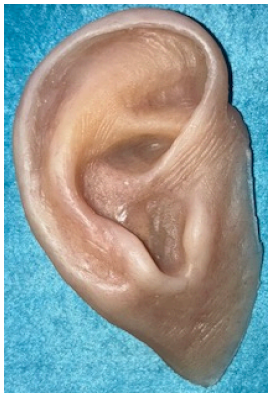


Preoperative management and placement of the implant in the mastoid area

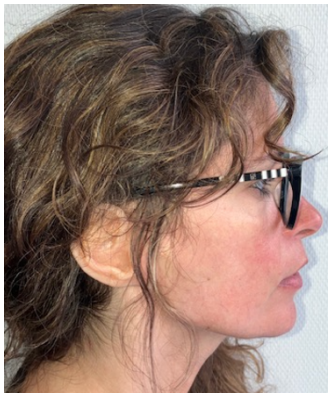
Results
The patient experienced an uneventful recovery and was highly satisfied with the aesthetic result. Although additional procedures like rhinoplasty and a unilateral facelift could enhance facial symmetry, they were not pursued due to the patient's satisfaction. For skeletally mature patients with severe microtia, implant-retained auricular prostheses provide a valuable alternative to autologous reconstruction, reducing surgical interventions and avoiding issues such as cartilage resorption, skin tone mismatch, and asymmetry. Additionally, autologous methods may hinder future prosthetic options due to scarring or bone loss.



Implants and bar-clip retention system in position before placing the prosthesis



Auricular prosthesis



Patient with the implant-retained auricular prosthesis

Conclusion:
This case underscores the necessity of long-term, individualized treatment planning in adult patients with hemifacial microsomia and grade III microtia. A staged, patient-specific approach combining skeletal reconstruction and soft tissue contouring can yield favorable aesthetic outcomes. Although autologous reconstruction remains the standard of care, implant-retained auricular prostheses should be considered a viable and often preferable option, even when traditional surgical reconstruction is feasible.