

Available online at www.sciencedirect.com

ScienceDirect

journal homepage: www.e-jds.com

Correspondence

Combined oral rehabilitation using labial epithesis and conventional prostheses attached by magnets

KEYWORDS

Oral cancer;
Labial epithesis;
Removable prostheses;
Magnets;
Squamous cell carcinoma

When reconstructive surgery is not recommended after aggressive and infiltrative facial cutaneous squamous cell carcinoma (cSCC), epithesis is the preferred non-invasive technique to restore the patients' aesthetics and improve their quality of life.^{1–3}

A 74-year-old female patient presented for a prosthetic restoration following a cSCC of the upper lip and columella treated with chemo and radiotherapy (70Gy) in 2018 with recurrence in 2023. An anterior maxillectomy and resection of the upper lip were required but reconstructive surgery was not feasible (Fig. 1A, B and C). The main problem was the choice of retention device. Given the lack of bone support and the risk of osteonecrosis, implants were contraindicated. The stability of the epithesis was ensured by using magnetic retention with a maxillary complete removable denture (CRD).

To validate the aesthetic project, a temporary epithesis without retention device was made from a digital impression (Artec Space Spider Scan, Artec Group, Findel Senningerberg, Luxembourg) (Fig. 1D and E). The patient used adhesive tape to hold the epithesis (Fig. 1F). CRD was performed using conventional techniques. The maxillary prosthesis had sufficient resin height on the buccal surface to allow the placement of two magnets (titanmagnetics®,

STECO system-technik, Hamburg, Germany) using self-curing acrylic resin, which would then ensure retention of the epithesis (Fig. 1G, H and I). The final epithesis was adjusted and made up (wrinkles, final lines and shade) directly on the patient on the basis of her previous photos (Fig. 1J, K and L).

Oncological surgery can result in significant anatomical defects causing great physical and psychological distress. Loss of the lips compromises speech, appearance and chewing and can lead to uncontrolled salivary leakage.

The manufacture of epitheses requires significant marginal adaptation to ensure that the tissue-epithesis junction is imperceptible and that retention is adequate, which is difficult due to the constant mobility of the lips and cheeks. In addition to anatomical undercuts, retention options typically often include tissue adhesives, spectacles, magnets or implants. The adhesive requires patients to apply it to the periphery of the epithesis each time they use it. Some patients feel uncomfortable or develop allergies because of the mucinous appearance of adhesives. Retention by glasses is poorly tolerated by patients who do not wear them regularly. The introduction of Samarium–Neodymium rare-earth magnets combined with

<https://doi.org/10.1016/j.jds.2024.04.010>

1991-7902/© 2024 Association for Dental Sciences of the Republic of China. Publishing services by Elsevier B.V. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

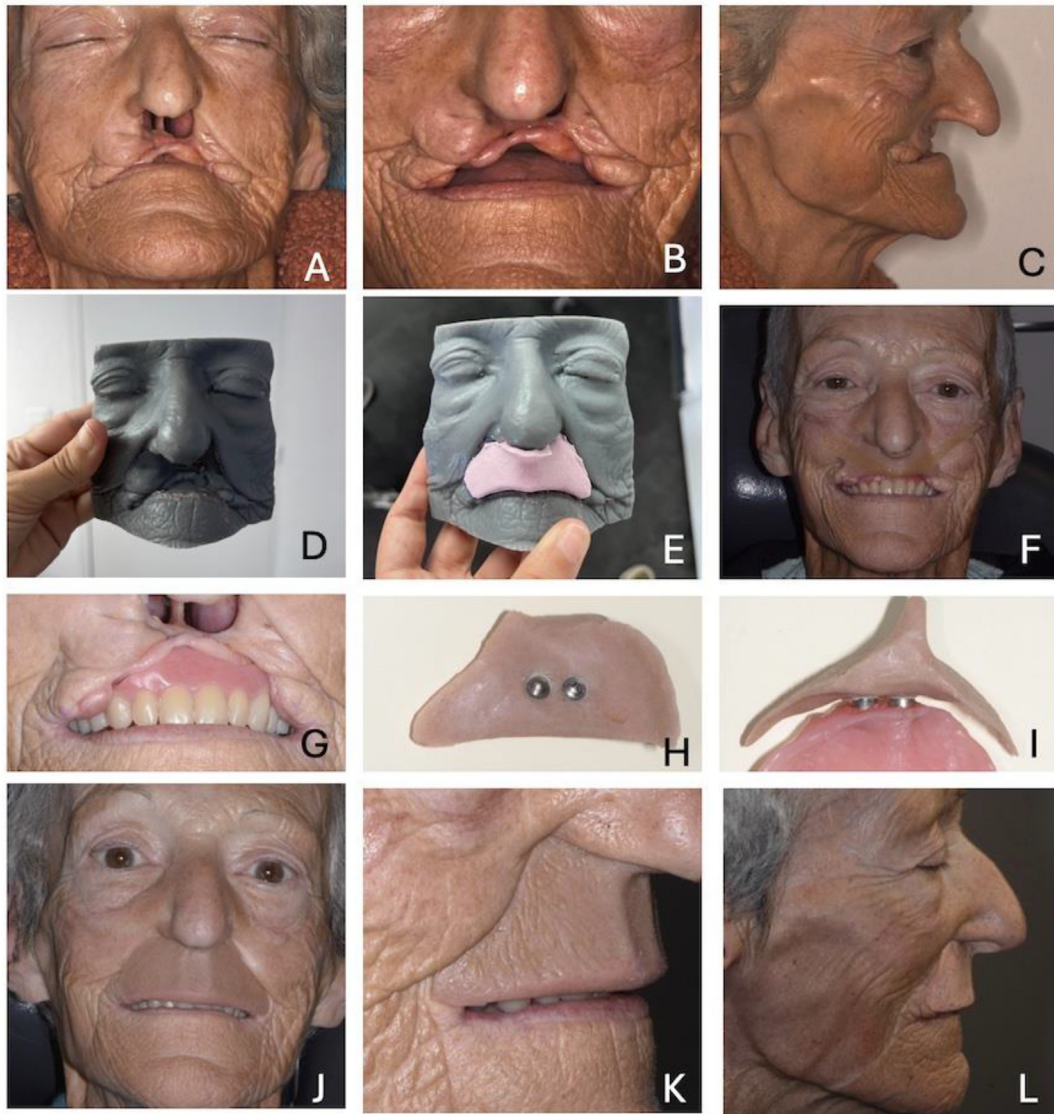


Figure 1 Clinical facial photographs of the patient before and after the combined oral rehabilitation using labial epithesis and conventional prostheses attached by magnets. (A, B and C) Initial clinical facial photographs of the patient before the combined oral rehabilitation. (D and E) Printed model with silicone draft of the provisional epithesis. (F) Temporary epithesis retained by an adhesive tap. (G) Polymerized removable complete denture. (H) Epithesis with the female parts of the magnets. (I) Epithesis and prosthesis connected by magnets. (J, K and L) Final integration of labial epithesis, exploiting the patient's wrinkles.

tin or titanium coatings has dramatically reduced their cytotoxicity, while ensuring optimum retention strength. Available in a range of shapes and sizes, these magnets allow you to choose the one best suited to the defect to be restored.⁴ Making digital impression using facial scanner avoids errors caused by conventional impressions, such as the compression of the soft tissues of the face by the impression material, and significantly improves patient comfort during this session. Their precision is greater than that of a conventional impression, with a faster setting time and no risk of obstructing the airways.⁵

The retention of a labial epithesis using magnets on a CRD, with a one-year follow-up, considerably improved the patient's quality of life (ability to eat, speech

intelligibility, elimination of fluid loss). The patient's social reintegration was transformed by a clear harmonization of his profile.

Declaration of competing interest

There is no conflict of interest.

References

1. Papaspyrou G, Schick B, Schneider M, Al Kadah B. Epithetic nasal reconstruction for nasal carcinoma: retrospective analysis on 22 patients. *Eur Arch Oto-Rhino-Laryngol* 2017;274:867–72.

2. Alqarni H, Montgomery P, Aponte-Wesson R, Won AM, Hofstede TM, Chambers MS. Combined rehabilitation of a lower lip defect after resection of floor of mouth cancer: a clinical report. *J Prosthet Dent* 2022;128:1369–74.
3. Won AM, Montgomery P, Aponte-Wesson R, Chambers M. Implant-supported and magnet-retained oral-nasal combination prosthesis in a patient with a total rhinectomy and partial maxillectomy due to cancer: a clinical report. *J Prosthet Dent* 2017;117:315–20.
4. Kurien A, Poundass M, Anirudhan S, Velliangattur TR, Yuvaraja BA, Masilamani A. Nasal prosthesis with magnetically secured intranasal framework for a patient with partial rhinectomy and intraoral defects: a case report. *J Clin Trans Res* 2020;14:190–7.
5. Cristache CM, Tudor I, Moraru L, Cristache G, Lanza A, Burlibasa M. Digital Workflow in maxillofacial prosthodontics - an update on defect data acquisition, editing and design using open-source and commercial available software. *Appl Sci* 2021; 11:973–93.

Chloé Mense*

Department of Maxillo-Facial Prosthesis and Implantology, AP-HM, Odontology, Timone Hospital, Marseille, France
Faculty of Medical and Paramedical Sciences, School of Dental Medicine, Aix-Marseille University, Marseille, France
UMR ADES, CNRS, EFS, Aix-Marseille Université, France

Cassandre Bézier

Department of Maxillo-Facial Prosthesis and Implantology, AP-HM, Odontology, Timone Hospital, Marseille, France

Faculty of Medical and Paramedical Sciences, School of Dental Medicine, Aix-Marseille University, Marseille, France

Martin Pénicaud

Aix-Marseille Univ, APHM, Department of Oto-Rhino-Laryngology and Head and Neck Surgery, La Conception University Hospital, Marseille, France

Frédéric Silvestri

Romain Lan

Department of Maxillo-Facial Prosthesis and Implantology, AP-HM, Odontology, Timone Hospital, Marseille, France
Faculty of Medical and Paramedical Sciences, School of Dental Medicine, Aix-Marseille University, Marseille, France

UMR ADES, CNRS, EFS, Aix-Marseille Université, France

*Corresponding author. Department of Maxillo-Facial Prosthesis and Implantology, School of Dental Medicine, Aix-Marseille University, 27 Boulevard Jean Moulin, Marseille, 13005, France.

E-mail address: chloe.mense@univ-amu.fr (C. Mense)

Received 8 April 2024

Final revision received 11 April 2024

Available online 21 April 2024