

Palatal Lift Prosthesis with a Flexible Lift

Tomohisa Ohno^{1*}, Ichiro Fujishima², Motoki Moriwaki³, Shinobu Matsui⁴ and Yasunori Sumi¹

¹Division of Oral and Dental Surgery, Department of Advanced Medicine, Japanese National Center for Geriatrics and Gerontology, Obu, Japan

²Department of Rehabilitation, Hamamatsu City Rehabilitation Hospital, Hamamatsu, Japan

³Department of Rehabilitation, Seirei Mikatahara General Hospital, Hamamatsu, Japan

⁴Matsui Dental Clinic, Japan

*Corresponding author: Tomohisa Ohno, Division of Oral and Dental Surgery, Department of Advanced Medicine, Japanese National Center for Geriatrics and Gerontology, 7-430 Morioka-cho, Obu-city, Aichi 474-8511, Japan, Tel: 81562462311; Fax: 81-562448518 E-mail: tomohisa@ncgg.go.jp

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Case Report

An 84-year-old institutionalized man with a history of multiple cerebral infarction was admitted for dysphagia. After receiving dysphagia therapy from a speech language pathologist for 2 weeks, this patient could eat easy-to-swallow food orally. However, nasopharyngeal reflux was observed. After the swallowing reflex, food would come out from his nostrils. This symptom is generally caused by defects in oronasal separation, whether from anatomic changes or from physiologic defects in velar movement patterns, and these result in entrance of food or liquid into the nasal cavity. In this case, nasopharyngeal reflux occurred as a result of physiologic defects. In addition, this patient had no gag reflex on touching the soft palate and rarely spoke because of dementia.

To improve nasopharyngeal reflux and provide support for lifting the soft palate, we applied a palatal lift prosthesis (PLP) in this case. The use of a PLP was first reported by Gibbons [1]. This prosthesis is used to achieve oronasal separation by displacing the soft palate to the level of normal palatal closure at the palatal plane [2].

The lift of the PLP that is employed to displace the soft palate, usually consists of hard resin and hard wire. However, this type of PLP obstructs the swallowing movement because of fixation of the soft palate at the palatal plane. During the swallowing reflex, the soft palate moves a little forward by contact with the posterior pharyngeal wall. Therefore, this type of PLP is not suitable for dysphagia patients and was mainly suitable for improving hypernasal speech.

To address this issue, we applied a new type of PLP with a flexible lift to improve the nasopharyngeal reflux in this case. The PLP applied in this case is shown in (Figures 1 and 2). The flexible lift consisted of soft silicon and flexible wire, which adhered to the plate via a bonding agent and several holding holes. Because of the flexibility of the lift, our PLP was not only smoother than the previous PLP during the swallowing movement, but also helped maintain oronasal separation [3].

In this case, a video fluoroscopic swallowing examination showed that the new PLP could achieve both swallowing movement and oronasal separation. The patient's velopharyngeal incompetence improved and the nasopharyngeal reflux showed complete recovery.

However, this prosthesis may show problems associated with the durability of the lift. Because the lift consists of silicon, it can easily deteriorate. Therefore, it is necessary to periodically replace the silicon.

Conclusion

We applied a new type of PLP to elderly dysphagia patient. Our PLP with a flexible lift may help improve nasopharyngeal reflux in dysphagia patients.



Figure 1: Palatal lift prosthesis with flexible lift.



Figure 2: Oral cavity with PLP.

References

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