

LOWER LIP SUCKING HABIT TREATED WITH A LIP BUMPER APPLIANCE

A Case Report

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ABSTRACT

The patient was a 12-year-old girl with a lower lip sucking habit with increased Overjet and mandibular incisor irregularity. Hyperactivity of the mentalis muscle and deepening of the labiomental sulcus because of the abnormal sucking habit was observed. Interceptive treatment was started with a lip bumper appliance to break the lower lip sucking habit. The lip bumper appliance therapy resulted in the elimination of the lower lip sucking habit, musculus mentalis hyperactivity, and labiomental strain and improvement of the lower incisor inclinations, and overjet reduction.

KEYWORDS: Lip sucking; Habit; Mentalis hyperactivity; Lip bumper

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INTRODUCTION:

Oral habit is a part of normal development in children. Habits are the learned patterns of muscle contraction with complex nature. Oral habits are repetitive act seen commonly from infancy and should finish automatically as age advances¹.

The position and stability of the dentition are influenced by the equilibrium between their surrounding muscular forces². Extraoral forces exerted by the orbicularis oris and buccinator muscles are balanced by the opposing forces of the tongue³. Any prolonged change in this balanced muscle function caused by parafunctions, such as lip sucking, lip biting, tongue thrusting, can alter the equilibrium, initiate morphologic change in the normal configuration of the teeth and supporting bone, and result in a malocclusion^{4,5}. The manifestation of an acquired malocclusion varies according to the type, localization, severity, frequency, and longevity of the habit, but elimination of the abnormal habit is fundamental for treatment and future stability. In cases with a lip sucking habit, the lip bumper appliance is a good treatment alternative for breaking the habit and correcting the resultant malocclusion. Treatment effects of the mandibular lip bumper appliance, such as gain in arch length, control of molar rotation, and anchorage, are well discussed in several studies⁶⁻⁹. However, its use in correcting the lower lip sucking habit has not been demonstrated previously.

The purpose of this case report was to present the treatment for a patient having a lower lip sucking

habit with a mandibular lip bumper appliance

CASE REPORT

A 12-year-old girl came to the Department of Pedodontics and Preventive Dentistry with the chief complaint of lower lip sucking habit since 4-5 years. The patient used to get indulge in the habit particularly at the time of watching TV and at the night during sleep. Her medical history showed no contraindication to the habit breaking appliance. Facial photographs showed an orthognathic profile with mentalis muscle hyperactivity and a deep labiomental sulcus caused by her abnormal habit. Her intraoral examination revealed a Class I molar relationship with an overjet of 10 mm. The maxillary anterior teeth were protruded with diastemata between them. The mandibular anterior teeth were lingually collapsed. Symmetrical upper and lower midlines were noted.



Pre-operative and intra-oral photographs of the patient

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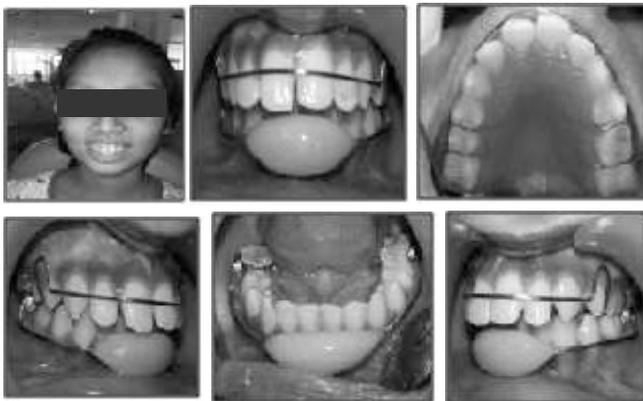
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TREATMENT

Treatment objective included the elimination of lower lip sucking habit. The treatment was initiated with preventive therapy like oral prophylaxis followed by pit & fissure sealants in all first permanent molars. Band pinching was done on both lower first molars (36, 46) followed by alginate impression following which a prefabricated lip bumper appliance was placed at the level of the gingiva two to three mm in front of the lower incisors and four to five mm away from the buccal segments. The appliance was fixed to the molar to eliminate any risk of patient compliance. Further, the maxillary arch impression was made using alginate impression material & dental cast was obtained. Hawley's appliance was fabricated in the upper arch.

Patient was followed up every 15 days till 4 months after which the lower lip sucking habit was completely eliminated.



Post-operative and intra-oral photographs of the patient

DISCUSSION

The lip bumper is a simple functional appliance and usually well tolerated by the patient. Various forms of treatment have been instituted in an attempt to prevent lip biting¹⁰. In the present case, a lip bumper was preferred as it has some advantages. The

construction of the appliance was easy. The patient became acclimated to it in a short time period and she did not have serious complaints while chewing. There are fixed and removable lip bumpers. A fixed appliance was prepared as the success of the removable type depends on patient cooperation. The fixed lip bumper was used for 24 hours and the habit was eliminated in a short period of time. When the habit was completely eliminated the appliance was removed¹¹.

Lip bumpers have been used to gain arch length for the alignment of mild to moderately crowded dental arches⁸, to correct molar rotations⁷, to control anchorage loss, to improve labialis muscle activity, and to eliminate lower lip biting habit¹². In the case in this study, a lip bumper appliance was used to eliminate the lower lip sucking habit and improve labialis and mentalis muscle activity. The sucking habit was prevented by the labial shield of the appliance. After treatment, the lower lip position was improved. The lower incisors inclined labially and the overjet was corrected because of the elimination of the lower labialis and mentalis muscle forces in response to unopposed pressure from the tongue. Similar dental changes after lip bumper therapy have been reported in other studies^{4-8,13}.

In the present case, lip bumper therapy led to desirable results within four months. Treatment time with the mandibular lip bumper appliance is reported to range between six to 33 months in previous studies^{4-6,14,15}. The relatively shorter period of treatment time in the case in this study might be because of the use of a fixed appliance, which eliminated the patient compliance problems.

CONCLUSION

Although all other treatment options are available, a fixed lip bumper appliance is very beneficial in eliminating the lower lip sucking habit in the children and thereby restoring the function

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