

Reversing the Effects of Tongue Thrusting Using Tongue Tamers

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Abstract:- This case report presents the successful correction of a tongue thrusting habit in a 8-year-old patient using tongue tamers as the primary therapeutic intervention. The patient exhibited anterior open bite and misaligned dentition, both attributed to chronic tongue thrusting during swallowing and speech. A thorough clinical examination and orthodontic assessment confirmed the need for habit correction to prevent further malocclusion and aid in proper dental development.

The treatment plan involved the placement of *tongue tamers* on the lingual surfaces of the maxillary anterior teeth, aimed at retraining the tongue to adopt a correct posture during swallowing. The patient was also provided with oral habit awareness exercises to reinforce the therapy. Follow-up evaluations at 3, 6, and 12 months revealed a significant reduction in tongue thrusting behavior, with a corresponding improvement in the patient's dental alignment and closure of the anterior open bite.

The successful outcome highlights the effectiveness of tongue tamers in correcting tongue thrusting when used in combination with patient cooperation and regular monitoring. This case supports the use of this minimally invasive intervention for habit correction in growing children, improving both functional and aesthetic dental outcomes.

Keywords:- Tongue Tamers, Tongue Thrusting, Invasive.

I. INTRODUCTION

A habit is an act of behavior that occurs repeatedly.¹ Repetitive actions involving mouth tissues constitute oral habits.² Oral habits could be an indication of aberrant facial growth or a typical aspect of development with a profound psychological foundation. A child's ability to grow and thrive can be negatively impacted by a variety of oral behaviors, such as lip biting, bruxism, tongue thrusting, mouth breathing, and thumb sucking. Among these, tongue thrusting is one of the most commonly seen. According to Tulley (1969), tongue thrust refers to the forward movement of the tongue tip during deglutition and during speech sounds to

meet the lower lip, causing the tongue to become interdental.³ Numerous causes, including an adverse development pattern, inherited tendencies to pacify and digit sucking, preserved infantile swallowing habits, increased lymphoid tissue, tongue function, and tongue position, might result in an anterior open bite.⁴ Therefore, a dentist frequently needs to combine behaviour modification with orthodontic and dentofacial orthopaedic therapy in order to manage such complicated and challenging malocclusions. Many researchers agree that even after an aberrant function is corrected, secondary dysfunctions such as bad tongue posture at rest may continue to exist. Constantly pressing the tongue against the anterior teeth in a gentle manner can have quite serious and harmful effects.⁵ Consequently, altering tongue behavior is probably going to increase the stability of anterior open bite corrections. Justus and Huang et al. suggest that once the habits that contribute to their beginning are broken, the stability of open bite correction will increase. Other methods, such as temporary anchorage devices, clear detachable appliances, and multi-loop edgewise arch wire approaches, have been utilized in addition to traditional orthodontics, orthognathic surgery, or habit-altering appliances to treat anterior open bite malocclusions.⁶ Bonded lingual spurs (BLS) are sharpened appliances fixed to the lingual surface of the incisor teeth. They have satisfactory interference in sucking habits and in establishing new tongue posture.⁷ This case report describes the twelve-month follow-up on elimination of the tongue thrusting habit with tongue tamers.

II. CASE REPORT

An 8-year-old male patient presented to the Department of Pedodontics at Pacific Dental College and Hospital, to undergo early treatment of anterior open bite. His parents reported a non-nutritive pacifier- and feeding bottle-sucking habit.

➤ Intra-Oral Assessment

Based on the initial intra-oral examination, the patient was at a transitional dentition stage. He presented with a convex profile, class I molar ratio, 4-mm anterior open bite and tongue thrusting at rest. His periodontal tissues were normal. (Figure 1)



Fig 1 Shows Intra-Oral Photographs Showing open Bite due to Tongue Thrusting

➤ Aetiology

The asymmetric open bite was limited to the incisor region, which indicated the dentoalveolar pattern of the reported case. The main aetiology of this malocclusion must be attributed to the patient's non-nutritive pacifier- and feeding bottle-sucking location habit.

The final aim lied on enabling the adequate overbite and to mitigate deleterious oral habits like tongue thrusting habit during childhood, in order to correct and improve bite stability and to prevent the need of undergoing advanced therapy.

➤ Treatment Plan

Spurs Protocol Treatment: The interceptive treatment plan was based on the bonding of Captain Ortho Tongue Tamers Bondable (Libral Traders Pvt. Ltd., New Delhi, India) This habit control device is designed to stop tongue thrusting and thumb sucking easily and effectively. Bonds perfectly to upper or lower arches due to the curved 80 gauge foil mesh bonding base. It helps to keep the tongue in place and discourages overactive muscle activity. The spurs were sharpened with carborundum disc before installation, based on Cassis.⁸ (Figure 2)



Fig 2 Shows Cementation of Tongue Tamers on Lingual Surfaces of Upper and Lower Anteriors

➤ Treatment Progress

Patient follow-up was conducted on a monthly basis; he presented positive overbite (0.5 mm) five months after the treatment. The spurs were maintained for addition 7 months. Open bit stability and improvement was seen in 12 month follow up period. The spurs had to be replaced twice during the treatment due to displacement. The spurs treatment

protocol was applied to the patient for 12 months and generated a 0.5-mm overbite.

After the 12 months follow-up, the patient presented class I molar ratio as well as elimination of tongue thrusting habit. (Figure 3)



Fig 3 Post Treatment Intraoral Photographs with 0.5 mm Overbite Reduction with Elimination of Tongue Thrusting Habit

III. DISCUSSION

A behavioral pattern known as "tongue thrusting" occurs when the tongue touches any teeth that are anterior to the molars while the swallowing process is underway.⁹ Redirecting the tongue's resting position is the most crucial factor to take into account while trying to break the habit of tongue thrusting. The terms "normal" and "abnormal" swallowing have their roots in the presumption that the morphology of the adjacent hard structures and the movements of the jaw, lips, and tongue during swallowing are related.¹⁰ The conditions that lead to the protrusion of the tongue tip during swallowing include environmental factors, oral habits, and the growth and maturity of the oropharynx. Hanson et al. claim that the damaging stresses of the tongue cause greater overjet, open bite, and/or excessive posterior tooth eruption.¹¹ In this instance, the tendency of thrusting the tongue was broken with the application of bonded lingual spurs (BLS). In addition to shifting the anterior tongue-resting position to prevent it from getting in the way of the incisors, BLS mechanically prevents sucking on fingers, bottles, or pacifiers. As a result, Anterior open bite closure and anterior tooth eruption are made possible by BLS.¹² Patients may be able to avoid relapses of tongue-thrusting by remembering these responses for a specific amount of time in their neuromuscular memory. As a result, this device has many benefits, including rapid and simple installation and removal, no requirement for moldings or laboratory testing, low cost, versatility for both arches, and no visual disturbance. When choosing this appliance for the patient in the described situation, these advantages were taken into account. Five months after he began wearing the spurs, the patient showed no signs of his tongue-thrusting tendency. The spurs were maintained for an additional seven months. Open bite stability and improvement shown at the 12-month follow-up period highlighted the significance of the acquired myofunctional balance and capitalized on the patient's growth potential.

IV. CONCLUSION

Bonded lingual spurs is an economical, effective, and very useful method for controlling of tongue-thrusting habit along with providing open bite stability.

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