World Journal of Research and Review (WJRR)
ISSN:2455-3956, Volume-5, Issue-1, July 2017 Pages 54-56

Breaking the Tongue Thrusting Habit: When Compliance Is Essential- A Case Report

Dr. A.Vasantha Kumari, Dr. K.Vivek, Dr. Vivek Reddy, Dr. S. Anitha

***Abstract*— Oral habits can interfere with the growth and normal development of the jaws, favouring the onset of malocclusion and changes in normal swallowing and speech patterns depending on factors such as duration, frequency, intensity and facial pattern. The open bite is most frequently seen in anterior region, having deleterious habits as one of its main etiological factors. This case report is focussed on the correction of tongue thrusting habit in a 7 year old child female patient.**

***Index Terms*— Tongue thrusting, Proclination, Overbite.**

I. INTRODUCTION

A habit is a repetitive action that is being done automatically. The mouth is the primary and permanent location for expression of emotions and is a source of relief in passion and anxiety in both children and adults, stimulation of this region with tongue, finger, and nail can be a palliative action. Trident factors like duration of the habit per day, degree and intensity of habit are responsible for any habit to produce detrimental and lasting effects[1].Tongue thrust swallowing has been defined as the forward placement ofthe tongue lie between the incisors, during deglutition. Tongue thrusting can occur because of delayed transition between infantile and adult swallowing pattern. Normally the transition begins around the age of 2 years, and completed by the age of 6 years[2].

Tongue thrust is a forward placement of the tongue between the anterior teeth and against the lower lip while swallowing, according to Schneider (1982). During infantile swallow the tongue is placed between the gumpads. After 6 months of life, several maturational events occurs that alter the functioning of the orofacial musculature with the arrival of incisors, the tongue assumes a retracted posture. If the transition of infantile to mature swallow does not takes place with the eruption of teeth, then it leads to tongue thrust swallow3.In a normal swallowing pattern, the distal part of the tongue touches the palate and the tip is placed on the back of the upper incisors. Whereas in tongue thrusting habit the middle part of the tongue disturbs the equilibrium existing between forces exerted upon the teeth and results in dental complication and disorders4.

The prevalence of oral habits in high school and primary school students have been reported as 34% and the most prevalent was 18% of tongue thrusting habit. The reason attributed was the constant change over the teeth in mixed dentition, often leading to open spaces, thereby prompting a habit of tongue thrusting5.The present article describes the management of deleterious tongue thrust habit in a 7 year old female patient with habit breaking appliance.

II. CASE REPORT

A 7year old girl reported to the Department of Pedodontics with a chief complaint of irregularly arranged teeth. At initial presentation her height was 120cm and weight of 22kg. She was healthy and no complication has been reported at birth. Her medical and family history are non-contributory. Extra oral examination assessment reveals convex profile, incompetent lip, retrusive chin and increased lower lip length. On intra oral examination, patient has normal soft tissue mucosa, presence of generalised marginal gingivitis, Angle's class I malocclusion with open bite and presence of tongue thrusting habit. Radiographic examination of lateral cephalogram revealed short anterior cranial base, proclined maxillary incisor, vertical growth pattern, retrognathic mandible, decreased mandibular ramus, and effective mandibular length. During each swallow, the tongue can exert momentary pressure of 1 to 6 pounds on the surrounding structure of the mouth. This pressure will push the teeth and bone forwardapart. Tongue thrusting will move teeth into abnormal position and cause growth distortion of the face and teeth. Based on clinical and radiographic findings, the tongue thrusting habit was confirmed and planned for habit breaking appliance, the upper Hawley's appliance with tongue crib.

Initially the patient was treated with oral prophylaxis followed by oral hygiene instruction. Habit breaking appliance, the upper Hawley's appliance with tongue crib was fabricated and delivered. The patient was counselled and motivated for regular follow up.

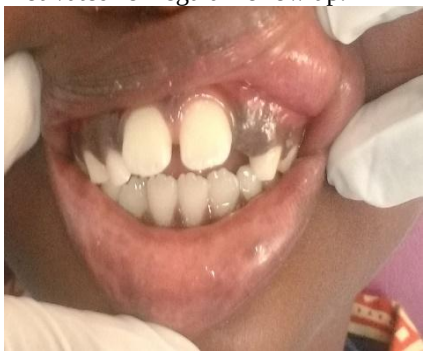

Fig – 1. Showing proclined upper anterior

Dr. A.Vasantha kumari, , Professor and Head, Department of Pedodontics and Preventive Dentistry, Adhiparasakthi Dental College and Hospital, Melmaruvathur, India - 603316

Dr. K.Vivek, Senior Lecturer, Professor and Head, Department of Pedodontics and Preventive Dentistry, Adhiparasakthi Dental College and Hospital, Melmaruvathur, India - 603316

Dr. Vivek Reddy, Senior Lecturer, Professor and Head, Department of Pedodontics and Preventive Dentistry, Adhiparasakthi Dental College and Hospital, Melmaruvathur, India - 603316

Dr. S. Anitha, Lecturer, Professor and Head, Department of Pedodontics and Preventive Dentistry, Adhiparasakthi Dental College and Hospital, Melmaruvathur, India - 603316

Fig – 2. Upper Hawley's appliance with Tongue crib

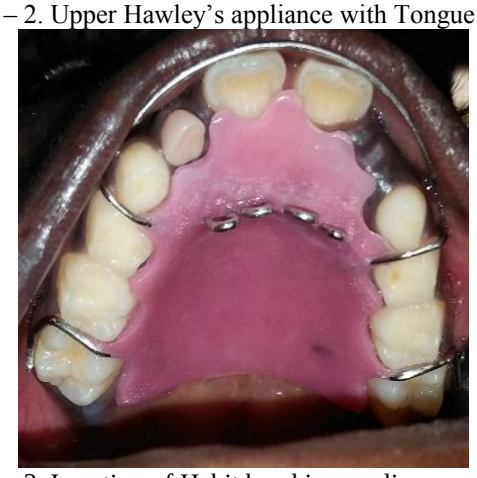

Fig – 3. Insertion of Habit breaking appliance

DISCUSSION

Oral habits are learned pattern of muscle contraction and have a very complex nature. They are associated with anger, hunger, sleep, tooth eruption and fear. Some children even display oral habits for release of mental tension. Tongue thrust is the most common one and result in damage to dento-alveolar structure, hence itsmanagement plan is important to every clinician6Deleterious oral habit are the common problem of paediatricians which affects the quality of life. Oral habits are repetitive behaviour in the oral cavity that result in loss of tooth structure.Parafunctional habits are recognized as a major etiological factor for the development of dental malocclusion. The abnormal tongue function and posture have been long debated as a cause of malocclusion7Tongue thrust also called reverse swallow or immature swallow, is the common name of orofacial muscular imbalance, a human behavioural pattern in which the tongue protrudes through the anterior incisors during swallowing, speech and while the tongue is at rest. Tongue thrusting may be primary cause of malocclusion or it may be secondary adaptive factor as in skeletal openbite8

Careful differentiation must be done among simple, complex tongue thrust, infantile swallowing pattern and faulty tongue posture. Prognosis is good for simple tongue thrust, not very good for complex one and poor for retained infantile swallowing pattern. Protractedtongue posture can be acquired which can be corrected and no certain treatment for endogenous. Habitual tongue thrust is present as a habit after the correction of the malocclusion. Functional tongue thrust develops to achieve an oral seal and anatomic tongue thrust occurs due to macroglossia9.The etiology of tongue thrust may be retained infantile swallow, upper respiratory tract infection, chronic tonsillitis, neurological disturbances, and transient change in anatomy, hypertonic orbicularis oris and macroglossia10

Clinical manifestation of tongue thrust habit depends on intensity, duration, frequency and type of tongue thrust. Extraorally lip separation, more erratic mandibular movements, speech disorders and increase in anterior facial height are noticed. Intraorally jerky and irregular tongue movements, lowered tongue tip, proclination of maxillary anterior teeth with spacing, increased overjet anterior or posterior openbite, retroclination or proclination of mandibular teeth, posterior crossbite have identified in tongue thrust habit11Tongue thrust has always been considered as a complication in the diagnosis and prognosis of orthodontic treatment. Management of tongue thrust depends on the age of the patient, presence or absence of associated manifestation, speech defect and type of malocclusion. Patient can be trained with myofunctional exercise, use of preorthodontic trainer initially and later speech and mechanotherapy can be planned. If necessary surgical treatment for correction of malocclusion can be done12

CONCLUSION

Successful orthodontic treatment is based on comprehensive diagnosis and treatment planning. It is possible to treat openbite malocclusions especially where the etiology lies as tongue thrusting by motivation and training of patient. Clinician should play the role of friend, philosopher and guide to both parents and child indulging in damaging oral habits.

REFERENCES

[1] Shahraki N, Yassaei S, Moghadam MG. Abnormal oral habits: A review. J Dent Oral Hyg. 2012;4(2):12–15.

[2] Warren JJ, Bishara SE, SteinbockKL, Yonezu T, Nowak AJ. Effects of oral habits duration on dental characteristics in the primary dentition. J Am Dent Assoc. 2001;132(12):1685–1693.

[3] Melsen B, Stensgaard K, Pedersen J. Sucking habits and their influence on swallowing pattern and prevalence of malocclusion. Eur J Orthod. 1979;1(4):271–280.

[4] Sayin MO, Akin E, Karaçay S, Bulakbasi N. Initial effects of the tongue crib on tongue movements during deglutition: A Cine-Magnetic resonance imaging study. Angle Orthod. 2006;76:400–405.

[5] Villa NL, Cisneros GJ. Changes in the dentition secondary to palatal crib therapy in digit-suckers: A preliminary study. Pediatr Dent. 1997;19(5):323–326.

[6] Schwestka-Polly R, Engelke W, Hoch G. Electromagnetic articulography as a method for detecting the influence of spikes on tongue movement. Eur J Orthod. 1995;17(5):411–417.

[7] Sinem T , Biren S, Ceylanoglu C. Tongue Pressure Changes Before, During and After Crib Appliance Therapy. AngleOrthod. 2010;80: 533–539.

[8] Straub WJ. Malfunction of the tonguePart III. Am. J. Orthodontics 1962;48(7):486-503.

[9] Tulley WJ. A Critical Appraisal of Tongue thrusting. Am. J. Orthodontics 1969;55(6):640-650.

[10] Speidel TM, Isaacson RJ, Worms FW, Tongue-thrust therapy and anterior dental open-bite: A review of new facial growth data. Am.J.Orthodontics. 1972;62(3):287-295

[11] Singh S, Prerna, DuaP. Jain S. Habit Breaking Appliance for Tongue Thrusting - A Modification. Indian Journal of Dental Sciences 2011; 3(3):10-12.

[12] Shrestha BK, Orthodontic Treatment of Anterior Dental Open Bite withDrawbridge Effect: A Case Report. Orthodontic Journal of Nepal 2013;3(1):69-72.

Corresponding Author
Dr. A.VASANTHAKUMARI. M.D.S.
Professor and Head,
Department of Pedodontics and Preventive Dentistry,
Adhiparasakthi Dental College and Hospital,
Melmaruvathur, India - 603316.