



MANAGEMENT OF NON NUTRITIVE SUCKING HABIT IN A 11YEAR OLD BOY – A CASE REPORT

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Article Info <i>Received 15/08/2014</i> <i>Revised 27/08/2014</i> <i>Accepted 02/09/2014</i> Key words: Thumb, Bluegrass, Habit, Growth.	ABSTRACT Thumb sucking is a common phenomenon of childhood behavior. It is commonly associated with oral and psychological pleasure, hunger, anxiety etc. This habit has an adaptive value for children up to the fourth year of life. Prolonged retention of habit may affect the normal growth of dentofacial structures. Bluegrass appliance has been proven very successful to intercept thumb sucking habit. We present here a case of a male child aged 13 years with thumb sucking habit intercepted by using a nonpunitive reminder therapy using Bluegrass appliance. This nonpunitive Bluegrass appliance proved to be very comfortable to the patient unlike other appliances and also it was successful in intercepting the habit within a short period of 6 months.
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INTRODUCTION

Thumb sucking is a form of non-nutritive sucking occurring as early as the 29th week of gestation.[1] It is seen commonly in infants and peaks at 18-21 months of age.[2] Thumb and finger sucking habits, or non nutritive sucking, are considered to be the most prevalent of oral habits, with a reported incidence ranging from 13% to almost 100% at some time during infancy.[3,4] The finger sucking habit, normal in the first 2-3 years of life, may cause permanent damage if continued beyond this time.[5] The continuation of oral habits is usually due to physical and emotional stimuli such as boredom, stress, hunger, hyperactivity, sadness, pleasure, and various kinds of disabilities. An acute increase in the child's level of stress or anxiety can also account for continuation of the sucking habit.[6]

Sucking behaviors in infants and young children are mainly derived from the physiologic need for nutrients. Current understanding of child development suggests that sucking behaviors also arise and persist in part because of psychological needs; normally developed infants have an inherent biological drive for sucking.^[5] The dentist, in

discussing the problem of a persistent oral habit must try to determine, if it is a habit which the child enjoys or if there are emotional problems that may be the cause.[7]

Much attention has been directed toward oral habits, such as non-nutritive sucking habits and tongue-thrust, as possible causes of unbalanced functional forces on the developing dentition. Unbalanced functional forces are potential etiologic factors in the development of dentoskeletal abnormalities and hence possible etiologic factors in malocclusion. This is based on the theory of craniofacial growth proposed by Moss in the 1960s in his "functional matrix theory".[8]

Methods for habit intervention include counselling, positive reinforcement, a calendar with rewards, an adhesive bandage, bitter nail polish, long sleeves and appliance therapy. All of the previous methods that are used to stop the finger-sucking habit have been reported in the literature with variable success rates.[9] If an appliance is used it should not be painful or interfere with occlusion; instead it should merely act as a reminder.[10]



Oral appliance, if inserted for several months, usually eliminates the habit in children who wants to stop. with oral appliances. This type of appliance tends to be regarded as a punitive rather than a supportive treatment.[11]

In the light of these factors, we present a case of 11 year old child with non-nutritive sucking habit successfully managed by Bluegrass appliance.

Case report

An eleven year old boy reported to the department of Pedodontics and Preventive Dentistry with parents concerned about his thumb sucking habit. Parents revealed that the child was practicing thumb sucking habit regularly for 5-7 hrs/day during waking hours and unconsciously during sleeping hours. On examination child presented with anterior open bite (figure 1). The open bite present was about mm. During the first visit parental counseling was done and ill-effects of thumb sucking habit were pointed out to the child. Parents were instructed to motivate the child to stop the habit. On the second visit, child was willing to discontinue the habit but needed reminder as child was unconsciously practicing the habit. A blue grass appliance (Figure 2) was planned for the child.

Firstly, molar bands were fabricated and adapted on maxillary molars. Alginate impression was taken and casts were poured with dental stone over which molar

However emotional problems, difficulty with speech and eating, and iatrogenically “self inflicted” wounds can occur bands were transferred. Next, a blue grass roller was made with acrylic. Roller had a hole in center which was wide enough to roll onto 0.9 mm stainless steel wire with which the appliance was fabricated. After that 0.9 mm stainless steel wire of appropriate length was taken and bent at 90°. The roller was then slid onto the horizontal side and trapped by bending the wire beyond roller at 90°. The wire was then adapted over the palate extending from either side of molars. No contact was established by the roller with the palatal tissues so that there was enough room for rollers to spin freely. After that appliance was properly adapted, it was secured over the cast for soldering using plaster. Acrylic was covered with plaster to prevent distortion due to exposure to flame. The wire was soldered to molar bands and the appliance was cemented using luting cement (Fig 3).

The patient was instructed to roll the acrylic roller with tongue whenever she feels like sucking her thumb. The child was comfortable with the appliance and played by rolling the roller with the tongue. Patient was recalled after a month for check-up. The parents reported discontinuation of habit by the child within few days of placement of the appliance, and by the end of 4½ months complete cessation of the habit was noted. Patient was asked to wear the appliance for almost 6 months to avoid relapse of the habit.

Fig 1. Child with open bite due to non- Nutritive sucking habit



Fig 2. With Bluegrass appliance



Fig 3. Bluegrass appliance post cementation



DISCUSSION

Thumb sucking is common phenomenon in pediatric age group that reflects the earliest form of habitual manipulation of body. Many questions arise in the minds of general dentist, pediatricians, pediatric dentists and psychiatrists regarding impact of sucking habits on developing dentition. The age of the child, intensity, duration and frequency of the habit, child cooperation and motivation are all important factors to be considered for the success of any intervention. Sufficient time should be given for the child to stop the habit on his/her own.^[12]

Appliance therapy should be considered after consultation with the parent of the child. From many years, habit breaking appliances in the form of palatal cribs, spurs, palatal bars, hay rakes, and cage type appliances have been used in the pediatric age group. However, emotional disturbances, difficulty in speech and eating, and iatrogenically self-inflicted wounds can occur with such appliances.^[13] Haskell and Mink described the blue grass appliance which is easy to wear, and did not have problems associated with traditional palatal cribs and rakes. The design consisted of hexagonal Teflon roller on a cross-palatal wire which was found to be effective in ending the sucking habit in several days.^[14] In the present case the

appliance was fabricated similar to the one suggested by Haskell and Mink except for child's preference for a pink color bead, resulted in positive reinforcement such that the child played with his tongue by rolling the beads. It also acted as a distraction therapy when the child was idle. As recommended by Haskell and Mink the appliance was left in place even after correction of the habit to avoid reappearance. The advantage of the Bluegrass appliance is the use of the roller instead of cribs/rakes. The smaller size of the appliance due to the roller allows it not to be seen from outside the patient's mouth. An additional advantage is that the roller can act as a neuromuscular stimulant for the tongue, which can aid patients in speech therapy. Though, it has a few disadvantages like eating and speech difficulties few days after placement but it subsides later.^[12]

CONCLUSION

Bluegrass appliance is very effective in the management of Non-nutritive sucking habits in children.

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CONFLICT OF INTEREST: NIL

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