

Unusual case of prolonged breastfeeding in an orthodontic patient: clinical and psychosocial implications

Lucas Garcia Santana¹  | Leandro Silva Marques¹ 

¹Departamento de Odontologia, Universidade Federal dos Vales do Jequitinhonha e Mucuri, Diamantina, Minas Gerais, Brasil

Case report: This article presents the case of an 11-year-old patient who sought orthodontic treatment, complaining of crooked teeth. In anamnesis, an emotional and physical dependence was reported regarding the act of breastfeeding. Considerations on the diagnosis, psychological implications, and clinical approach in this rare case were addressed. An orthodontic treatment and myofunctional therapy were performed to resolve the occlusal and functional aspects of the patient. Psychological therapy for the child and her mother was required to handle emotional sequelae.

Conclusion: Multidisciplinary treatment was prescribed. Dentists should be aware of this need in cases of patients with special characteristics for treatment beyond oral problems. In orthodontics, this may be the difference between effective treatment outcomes or not.

Uniterms: Orthodontics. Breast feeding. Deglutition disorders.

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INTRODUCTION

The World Health Organization recommends that exclusive breastfeeding should be performed up to six months of age, with partial continuity until up to two years of age, as it provides unquestionable nutritional, immunological, psychological, and economic benefits without negative effects on natural craniofacial growth^{1,2}.

Regarding craniofacial growth and development, studies indicate that insufficient breastfeeding is correlated with the underdevelopment of the masticatory complex, the onset of mouth breathing, an alteration in tongue movement, the introduction of deleterious oral habits, and consequently the development of malocclusion². In addition, there is available evidence that breastfeeding is a protective factor against posterior crossbite and Class II malocclusion in the primary and

mixed dentition²⁻⁴. On the other hand, although not common, breastfeeding may extend beyond the recommended time period and negatively influence the child's physical and psychological development. In this sense, the stomatognathic system may be one of the first structures to undergo alterations, which may manifest as malocclusions.

In addition to the nutritional and developmental aspects, breastfeeding in the first months of life is related to the child's emotional aspects, such as the feeling of security and affective support, associating this stimulus with pleasant sensations, such as affection and warmth^{1,4}. Moreover, during sucking, lips, tongue, and oral mucosa experience a sensation of pleasure that builds the first psychological functions and interpersonal relationships (mother-child)¹.

Studies that assessed the extension of breastfeeding to more advanced ages (24 months of age or older) are scarce, and the

Autor para Correspondência: Lucas Garcia Santana

Rua João de Ávila, 31, Jardim, Diamantina, Minas Gerais . CEP: 39.100-000. Telefone: +55 38 3531 4155

E-mail: lucasgarciasantana@gmail.com

possible effects of the persistence of this habit on the child's physical and psychological growth and development are unknown⁴. Given this, the aspects of diagnosis, clinical approach and treatment are a significant and challenging problem considering the clinical practice of pediatric dentists and orthodontists. Some issues are relevant and can be decisive for an effective and efficient treatment approach.

Therefore, the aim of this article was to present an unusual case of an orthodontic patient who breastfed up to 11 years of age. Diagnosis, psychological implications, clinical approach, and treatment aspects have been addressed.

CASE REPORT

DIAGNOSIS AND TREATMENT PLANNING

An 11-year-old girl sought orthodontic treatment at a private clinic, complaining of

"crooked teeth".

The initial extraoral examination showed facial symmetry, adequate facial proportion, projection of the upper lip, and reduction of the nasolabial angle (Figure 1). The patient had an infant swallowing pattern, with lingual interposition between the incisors and lips, which was observed during water drinking. Phonation problems were observed, mainly in relation to the pronunciation of sibilant sounds, such as "ss". No systemic alteration was reported.

The initial intraoral clinical examination showed that the patient was at the beginning of the permanent denture, with eruption of the superior canine. An Angle Class I malocclusion was observed, with crowding in the anterior region of the maxillary and mandibular arches, excessive overjet (7 mm), lingual crown inclination of the mandibular incisors and anterior projection, and buccal crown inclination of the maxillary incisors (Figure 1).

Figure 1 - Pre-treatment photographs



During the interview, the patient presented an introverted and timid behavior, with mental age incompatible with the chronological age. Her mother reported that the patient had no siblings, was the daughter of divorced parents, and was constantly a victim of bullying at school because of

the position of her teeth. An emotional and physical dependence (of the mother and the child) has still been reported in relation to the act of breastfeeding. The mother breastfed the patient daily as a way to provide comfort and tranquility, as well as care and protection to her daughter (Figure 2).

Figure 2 - Patient at 11 years of age being breastfed by her mother



TREATMENT PROGRESS AND RESULTS

The treatment approach was multidisciplinary, involving orthodontics to resolve occlusal problems and orofacial myofunctional therapy to normalize orofacial muscles for rest, swallowing, eating, drinking, and speaking. Referral to the orofacial myofunctional therapist was done after the initial diagnosis, and the therapy consisted of a selective exercise prescription regime, which was carried out concurrently with orthodontic treatment. The orofacial myofunctional exercises and sessions were continued until speech errors and oral habits were resolved. In addition, the mother and child were referred to therapy with a psychologist, seeking to solve the psychosocial problems arising from the feeling they both felt about the act of breastfeeding. Psychological therapy started simultaneously with orthodontic treatment and lasted 12 months.

The orthodontic treatment consisted of the extraction of four first premolars, concomitant with the use of a standard stainless steel

multibracket fixed appliance (0.022-inch slot pre-adjusted edgewise). Spaces were closed with closing loop arch wire 0.018 X 0.025-inch stainless steel. During the finishing stages of treatment, maxillary and mandibular 0.018 X 0.025-in finishing arch wires were used. After this stage, the fixed orthodontic appliances were removed, Hawley retainers were placed and the patient was instructed to wear the retainers full-time for the first 6 months.

At the end of the treatment (32 months), the maintenance of the Class I molar relationship was observed, achieving optimal overjet and overbite (Figure 3). A harmonic facial profile was obtained, diminishing the projection of the upper lip and improving the relation of the lip with the nose (Figure 3). There was a reeducation of tongue posture with a transition from infant swallowing to adult swallowing. In addition to the satisfactory functional and esthetic occlusal results, the patient's psychological aspects also evolved. She became an extroverted person and developed new extracurricular activities, such as foreign language learning and leadership in a scout group.

Figure 3 - Post-treatment photographs



DISCUSSION

This article describes a rare case of a patient who sought orthodontic treatment and, during the interview, the emotional and physical dependence of mother and daughter was reported as regards the act of breastfeeding, which was performed daily. To the best of our knowledge, this is the first report of prolonged breastfeeding in pre-adolescence as a way to maintain emotional involvement between mother and daughter.

Breastfeeding prevents deleterious oral habits, and the appearance of such habits is inversely proportional to the frequency and time of breastfeeding. The prolongation of breastfeeding for a few months beyond six months of life may act as a protection factor against the development of malocclusions in the deciduous and mixed dentitions^{2,3}. However, in this case, there was a rare occurrence of prolonged breastfeeding until 11 years of age, at the beginning of the permanent denture. This resulted in functional, occlusal, and psychological problems in the patient.

The correct functional development of the tongue, lips, and perioral muscles are related to the act of breastfeeding. The movements of the tongue and lips for the child to obtain milk during breastfeeding, occurs through a “squeezed action”. By placing the nipple in the mouth, the movement of the lips and tongue contributes more to squeezing than sucking, and the tongue compresses the nipple against the palate, using a peristaltic movement, which positions the tongue correctly against the palate during the first months of life, besides favoring the adequate closure of

the lip and stimulating the mandibular function^{2,3}. This mechanism characterizes infant swallowing and physiologically involves the interposition of the tongue between the bony bases, whereas in adult swallowing the tip of the tongue is placed at the level of the incisive papilla. The transition between these two phases occurs along with the eruption of deciduous teeth, gradually over a period of up to 15 months⁵. In the present case, due to the maintenance of breastfeeding, there was a failed transition to adult swallowing and the persistence of an infant swallowing mechanism, developing a pathological condition called atypical swallowing.

In this altered tongue posture, the tip of the tongue touches the palatal surface of the maxillary incisors or remains between the arches, instead of the palate, the tongue’s back is curved down, and the base touches the posterior part of the palate. This condition causes reduced contraction of the mandibular lift muscles while the perioral muscles show significant activity, absent under physiological conditions⁵. This contributed to the development of occlusal problems of the patient, such as crowding in both arches, a greater buccal crown inclination of the maxillary incisors and lingual crown inclination of the mandibular incisors, which led to an excessive overjet, possibly due to the high frequency of nipple interposition during breastfeeding and lingual interposition during swallowing and at rest. In these situations, it is necessary to have a multidisciplinary, orthodontic, and myofunctional approach in order to guarantee an ideal and lasting result⁵.

In situations such as in this case, where the tongue has taken on a more anterior position and the orthodontic treatment plan indicates dental extractions, a multidisciplinary approach is suggested. Orthodontic treatment, in conjunction with myofunctional therapy, aiming to correct low and forward tongue posture and lingual interposition, reduces the risk of relapse when compared to orthodontic treatment alone⁶.

Both the esthetic problems caused by malocclusion and the excessive habit of breastfeeding can be related to the patient's psychological development, which presented excessive timid behavior, a mental age not compatible with the chronological age, and the lack of an interpersonal relationship. It is well-known that individuals with malocclusions with esthetic implications tend to have impaired social interaction^{7,8}. It is common for them to develop strategies, such as hiding or avoiding the smile, leading to social phobia, emotional insecurity, fear, and difficulties in interpersonal relationships^{8,9}. In addition, malocclusions have been associated with the occurrence of verbal bullying at school¹⁰, which was reported by the patient in the anamnesis. In this case, it was observed that orthodontic treatment, besides solving occlusal problems, helps the patient to feel better about her appearance, which facilitated her social acceptance, becoming a leader of a scout group; developing extracurricular activities¹¹, such as learning a foreign language; and later establishing a stable affective/romantic relationship.

Regarding the dependence relationship between mother and daughter as regards the act of breastfeeding, this condition can be influenced by such factors as the mother's age at birth, the condition of working outside the home, her mother's professional performance, the proximity of the mother to menopause, and the mother's exclusive dedication to the child's education^{1,12}. The difficulty of the mother in separating herself from the child and the fear of losing the affective and physical bond with her may be related to the development of dependency, overprotection, depression, and even the anticipation of the so-called 'Empty Nest Syndrome', which is suffering when the children leave their parents' home^{12,13}. These conditions were observed during the interview in anamnesis. Thus, it is of great importance for the clinician to make a careful investigation of the family context and of the emotional conditions involved in patients who have prolonged habits. After the identification of the condition of dependence between mother and daughter, both were referred to a psychologist for

the effective management of the psychological problem.

CONCLUSION

Prolonged maternal breastfeeding can lead to malocclusions, functional problems, and emotional implications. Clinicians should be aware that in cases involving patients with unusual emotional traits, treatment may require a multidisciplinary approach. In orthodontics, this may be the difference between effective treatment outcomes or not.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

ORCID

Lucas Garcia Santana  <https://orcid.org/0000-0001-5088-7322>

Leandro Silva Marques  <https://orcid.org/0000-0002-7089-8739>

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Amamentação prolongada em paciente ortodôntico: implicações clínicas e psicossociais

Relato de caso: Este artigo apresenta o caso de uma paciente de 11 anos que procurou tratamento ortodôntico com queixa de “dentes tortos”. Na anamnese, foi relatada dependência emocional e física da criança em relação ao ato de amamentar. Considerações sobre diagnóstico, implicações psicológicas, abordagem clínica neste raro caso foram abordadas. Foi realizado tratamento ortodôntico e terapia miofuncional para resolução dos aspectos oclusais e funcionais do paciente. Um acompanhamento psicológico para crianças e sua mãe foi necessária para abordar sequelas emocionais inerentes.

Conclusão: Um tratamento multiprofissional foi instituído e o dentista deve estar atento a essa necessidade nos casos de pacientes com características especiais, visando uma abordagem além dos problemas bucais. Na Ortodontia, essa pode ser a diferença entre os resultados eficazes do tratamento ou não.

Descritores: Ortodontia. Aleitamento materno. Transtornos de deglutição.