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Case Report

Early Treatment Crossbites in Children without Appliances

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Abstract

The tendency of many orthodontists to wait for the full replacement tooth visible to malocclusions at an early age condemns these patients suffer an asymmetric growth of both the skull base and around the masticatory apparatus. Using braces is difficult before the eruption of the first permanent molars. We propose a methodology easy to perform and does not require cooperation from children (because at such a young age would be complicated) as soon as possible to correct malocclusion and allows proper development.

Keywords: Early Orthopedics; Carved Selective; Direct Clues; No Apparatus; Asymmetric Growth; Development Laws

Introduction

Currently orthodontic treatments rarely begin before 6 years, even often expected to complete replacement of deciduous teeth that can be extended up to 11 years.

A pattern in which most orthopedists and orthodontists agrees is that you must act before they occur significant deformations and early treatment should primarily promote the following objectives:

1. Change the trajectory of skeletal growth and an orthopedic action to quickly transform the shape of the bony bases [1] to obtain.
2. Allow acquisition of new orofacial functions, such as alternating unilateral chewing, swallowing and nasal breathing [1].

In many cases, the date of treatment starts from the eruption of the first permanent molars, to use as anchorage in orthodontic appliances necessary. Since the cranial and facial growth (as regards the foundations of the face) usually ends around 6 years old, it seems too late and we use the following corrective technical cases that do not require placement devices.

Discussion

In orthodontic treatments apparatus, the aim is primarily to focus the mandibular deviation in a crossbite, skeletal sagittal balance position in Classes II and III or expansion of osseous bases for solving a discrepancy space. Mechanically the problem is solved, but in our opinion, if not accompany this work of corresponding pathological changes in functional habits that facilitated the emergence of malocclusion, relapse is inevitable.

Our work is based on the concept of French physiologist Claude Bernard that "the function creates the organ and organ function provides"[2].

Pedro Planas corroborates that the function starts a neural excitation. If this is physiological function and produce a physiological development and on the contrary that neural excitation is pathological, development response will be pathological [3]. Thus, we can add, stop or suppress stimuli acting on the factors that stimulate growth: paratypics physiological stimuli (chewing, breathing and swallowing) creating them if necessary and if they are modifying pathological.

Receiving the paratypics stimuli in the masticatory system takes place on the back of the meniscus articular condyle roll and the periodontium, through occlusal contacts and rubs during grinding food.

Wilson Aragao meanwhile, also says that if the functions are executed in its fullness (nasal breathing, mastication) the stomatognathic system will develop harmoniously [4].

The craniofacial increases in size at the expense mainly of the masticatory system. It's part of our body that external stimulus needs to be developed what is programmed in our genes [3].

The newborn has a capacity of maximum development of craniofacial at the time of birth and is lost with age. If a defective or deficient of any of the above functions (masticatory, breathing, swallowing) the maxilla and mandible, as the whole of the skull base receive pathological stimuli growth performance. The sooner

we solve this malfunction, the sooner we can return the possibility to grow.

Under the laws of development Planas [3] In the case of a dominant unilateral mastication will happen the following craniofacial imbalances:

1. The working condyle becomes larger.
2. The inclination of the articular eminence working side will be greater on the side of labor, lower rolling in.
3. The swinging side hemimandible increase length and work in height and width.
4. The mandibular angle is more closed in the usual chewing side.

For example, A 3-year-old has a cross-bite may not have unilateral chewing alternating, which is appropriate, since being masticatory functional angle Planas (AFMP) [3] less to the cross side, it will be much easier to eat on the left side. We must focus jaw as soon as possible so that the child can also eat on the other side and thus generate symmetrical growth stimuli. With or without equipment. Our choice is no equipment provided that as it may, by reducing the factor of cooperation needed from such a small child, the success rate is higher.

They are 2 techniques used in these cases

1. Carving Selective: when the mandibular deviation is the result of prematurity causing a mandibular displacement
2. Direct courts composite: when the tooth tissue would be removed to get rid of prematurity is too large, put direct clues composite modifying the occlusal plane and thus stimulate mandibular movement toward where we think fit (side not crossed crossbites, forward in class II and class III backward).

The disadvantage of selective grinding is the inherent difficulty of working with a child so young. As a technique that specifies neither anesthesia nor placing a rubber dam is well accept by children.

As for direct tracks, which do not require anesthesia, the biggest disadvantage is that the tracks may fall because they are attached to the tooth surface and chemically only have to replace them. It is also common that children are very uncomfortable when they leave the consultation because they can not close the mouth as they are accustomed to do so because the tracks act as a stop.

Then a review of 5 cases of children between 2 and 8 years malocclusion, which have been solved without devices will be made.

Case 1

3 year old girl and 5 months seeking care that it has a left crossbite (Figure 1a). His mother noticed first jaw twisting 16 months (his mother is a physiotherapist). At the time he went to the dentist and told him he could not do anything until at least when the first molars erupt. Crossbite is increasing, even the left deciduous central incisor (6.1) palatinate by the constant presence of the cross-linked jaw.

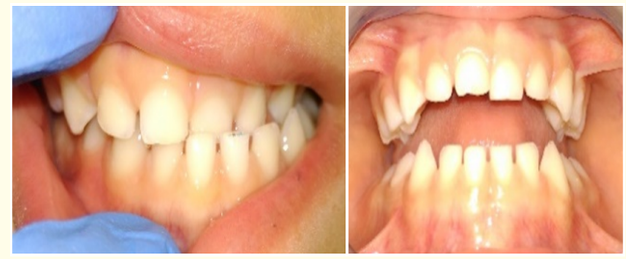

Figure 1a: Intraoral Photo patient with left cross bite.

In functional examination, a prematurity was found in the palatal cusp of 6.4. interference was removed and was told the patient to eat the right side.

After 2 sessions selective grinding to eliminate interference producing the mandibular deviation goes to the consultation with the fully centered jaw and 6.1 is more vestibulized (Figure 1b).

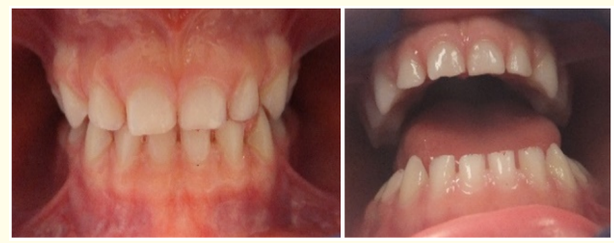

Figure 1b: Intraoral Photo patient after occlusal balancing.

From the jaw he is already centered and child is able to eat on both sides, Control will make quarterly reviews the first year and then annually.

Case 2

2 year old and 10 months comes to consultation with anterior crossbite (Figure 2a).

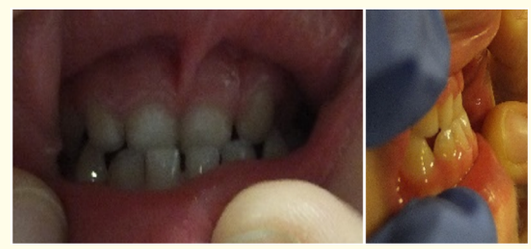

Figure 2a: Intraoral Photo anterior cross bite.

In this case the interference was in the central incisors. As only had contact previous level, the child moved the anteroposterior jaw to reach intercuspal.

4 months later and with 2 sessions selective grinding exists and positive overjet (Figure 2b).

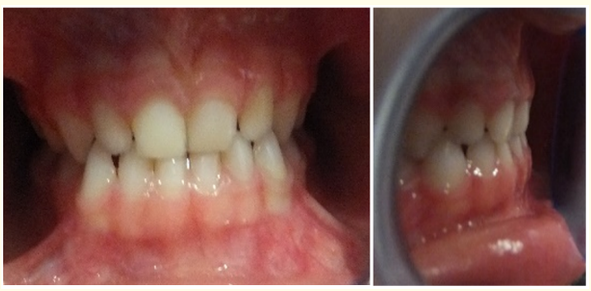

Figure 2b: Photo of patient after selective grinding.

From this moment the upper jaw can grow sagittal and transverse, his jaw contains and will be easier to maintain a good lip seal for proper nasal breathing.

We will monitor quarterly controls the first year and annually thereafter. This crossbite had gone more and more if we had not acted 6 years have been very severe and difficult to correct.

Case 3

4-year and 10 months left cross-bite (Figure 3a)

Figure 3a: Before placing direct composite tracks

In this case the amount of enamel that would have to eliminate in a selective cut was so great that chose to place direct composite tracks (Figure 3b). The goal was to focus jaw movements and enable right laterality necessary for proper chewing and repaired as soon as possible and cranial bone asymmetry does not see, but can intuit.

Equally important to place the tracks, he has been telling the patient to chew on the right side. As the tracks after placing the occlusal plane is higher on the right side and masticatory functional angle to the right it will be lower, your next chewing change almost automatically.

Figure 3b: After placing direct composite tracks.

We will review a month to evaluate whether to add more tracks or if it has dropped some of them and quarterly thereafter controls. From the year will suffice 1 annual visit.

Case 4

8 year old girl and 9 months. It presents a crossbite by an anteroposterior jaw by interference (Figure 4a)

In the position of centric occlusion crossbite there was 1.2 therefore chooses to perform selective grinding.

Figure 4a: Lateral incisor in crossbite.

Eliminated the interference, the jaw does not need to shuffle and upper right lateral incisor is no longer palatal (Figure 4b).

Revisions will be quarterly for the first year and then annually.

Case 5

Another patient of 8 years. The orthodontist had proposed a circuit breaker and face mask. The child has episodes of nocturnal epilepsy and their parents do not want the mask damage him if he suffer an attack (Figure 5a).

Figure 4b: Lateral incisor buccally.

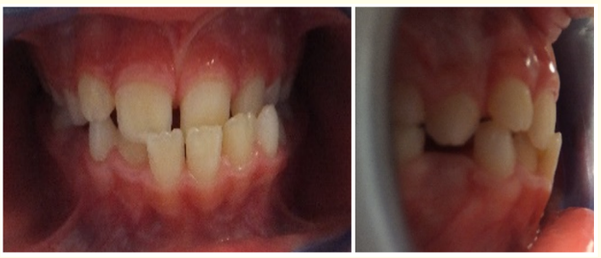

Figure 5a: Anterior crossbite and mandibular deviation to the left.

To explore functionally it was observed that the mandible in centric occlusion was centered and there was no previous or crossbite side. Our proposal was to place direct composite tracks to uncross his jaw and tell the patient to eat the right side (Figure 5b). Thus, a good masticatory function and craniofacial development right from this moment possible. Control checks are performed per month, then every quarter and annually thereafter.

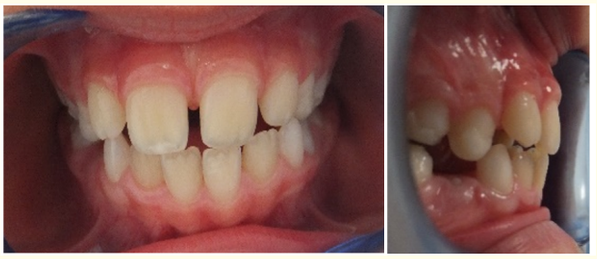

Figure 5b: After 1 month of placing direct composite tracks.

Conclusion

And the sooner we retrieve the correct physiological function of mastication, before malocclusions be solved. Skull and masticatory apparatus may further developed properly and symmetrically thus being able to provide our young patients in good dental health and correct occlusal equilibration.

The current trend is towards myofunctional appliances treatments that are valid on many occasions, but only suitable for night use and also need the cooperation of the patient to get the device and young children is not always easy.

The treatments proposed in this article (selective and direct carving tracks) are highly effective because they do not require patient cooperation and they are functional day and night. That's why what we prefer to any other device especially in the case of the smallest children.

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Volume 3 Issue 4 April 2019