

Etiological Diagnosis in Orthodontics and Interceptive Possibilities



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Abstract

The search of etiological factors is a fundamental step in the diagnosis. The success of orthodontic treatment is essentially based on the quality of the clinical observation; any cause related to malocclusion must be identified and analyzed. The acquired knowledge and clinical experience, then, will allow the best choice of the therapeutic method. The mechanisms of facial development and growth are numerous and strongly nested; thus, it is difficult to identify all the etiological factors involved in orthodontic malocclusions, but we can determine a large number among them and avoid their impact and so, many anomalies. The mistake would be to not suppress them or act late. Anomalies may appear, or become worse if they already exist, or relapse after orthodontic treatment.

Keywords: etiological factors; diagnosis; malocclusions; orthodontic treatment

Introduction

It may be interesting to introduce by answering the question: Why the etiological diagnosis?

And the answer is that it is an essential element for orthodontic care since it allows to:

- a) identify the causes involved in the appearance of malocclusions;
- b) evaluate the muscular and functional environment and so the chances of stability after treatment [1].
- c) analyze the evolution of the anomaly and to determine the prognosis;
- d) consider etiological treatment which will consider the possibilities of prevention and interception according to age [2,3].
- e) facilitate treatment with often, fewer orthodontic extractions;
- f) decrease the duration of treatment and risk of relapse in the short and long term.

Etiological Factors and Orthodontic Anomalies

The orthodontic literature attaches great importance to etiopathogeny, and the various factors involved in the appearance of anomalies [4,5]. These have been the subject of multiple searches and classifications. This led to establishing general and local causes of orthodontic anomalies. Factors are considered intrinsic or extrinsic. It may be heredity, congenital

causes, predisposing metabolic disease, nutritive deficiency, factors related to the muscular environment, the orofacial functions disorders (improper deglutition, speech defects, abnormal chewing), and the presence of harmful habits (thumb or lip sucking) [6,7] or dental causes (premature dental contact, early loss of primary teeth, trauma).

It is important to note that most orthodontic anomalies [8] have multifactorial etiologies and that it is difficult to distinguish between the part that goes with predeterminism and that related to the environment. Moreover, it is recognized that neuromuscular behavior may be genetic in origin and that hereditary abnormalities may cause functional disturbances. The prognosis is naturally more reserved when a hereditary etiology is implicated. The practitioner must take this into account at the time of the therapeutic decision.

Interceptive Possibilities

While it is difficult to act on certain predetermined etiological factors, many can be improved. The goal is to prevent the onset or aggravation of abnormalities and recurrence after treatment. For this, we can use simple methods and appliances:

- a. dental caries screening and endodontic care of temporary dentition to ensure the balanced development of the dentoalveolar arches;
- b. maintaining the space in case of premature loss of the primary teeth to avoid the loss of space and dental crowding [9,10];

- c. unlocking the occlusion to allow growth to express itself normally in case of deep bite, anterior or lateral cross-bite;
- d. treatment of breathings problems (buccal breathing) by the otolaryngologist and the orthodontist;
- e. functional education of swallowing and chewing, suppression of harmful habits to avoid their impact in the onset of bone or dentoalveolar anomalies and prevent their recurrence after treatment [1];
- f. suppression of possible obstacles (premature dental contact, hypertrophic labial frenum, short lingual frenum, supernumerary teeth, persistent temporary teeth).

Conclusion

The essential concern of the orthodontist is the success of the treatment; the etiological analysis is a crucial step in establishing the diagnosis. It is possible to avoid long and difficult care for both the patient and the practitioner by intervening early and effectively on the causes of certain orthodontic abnormalities knowing that the association; etiological treatment and treatment of the anomaly is possible. The results remain stable with a reduced risk of recurrence, the approach depends however on the patient's cooperation and the isolated or non-isolated, primary or secondary nature of the etiology involved.



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