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Root Resorption

Maria Ângela Arêa Leão FERRAZ[1], Beatriz Leal de FREITAS[2], Mayara Nelsy Freitas RIBEIRO[3], Mariana Nunes PAZ[4]
(PhD in Endodontics, Universityof Ribeirão Preto, Brazil)[1]
(Undergraduate StudentattheState University of Piauí, Brazil)[2]
(Undergraduate StudentatUniversity Center Uninovafapi, Brazil)[3]
(UndergraduateStudentatUniversity Center Uninovafapi, Brazil)[4]
Corresponding Author: Maria Ângela Arêa Leão FERRAZ

Abstract: *Root resorptions include all situations which mineralized dental tissues are eliminated by clastic cells at some point on the surface of the tooth. They are classified as internal or external, although the combination of the two types may occur in the same dental element. The scientific knowledge of the etiology, classification and development of this pathology contributes to the definition of the correct diagnosis and execution of an adequate plan of treatment to the case. The aim of this work was to report through a literature review the types of dental resorptions, conceptualizing and explaining their clinical and histological characteristics. It can be concluded that there is no consensus on the etiology of dental resorption and that the differential diagnosis between internal and external resorption is fundamental for the treatment proposal in order to reestablish the patient's oral health.*

Keywords: *Root resorption. Dental trauma. Internal and External Resorption.*

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I. Introduction

Root resorption is a physiological event, involved in exfoliation of deciduous teeth, as well as pathological, resulting from traumatic injury or irritation of the periodontal ligament and / or pulp tissue of permanent teeth[1]. Dental resorption is generally classified as internal and external, although the combination of the two types may occur in the same tooth [7 '20]. Internal root resorption, also called intracanal reabsorption, odontoblastoma, endodontic or internal granuloma, represents a pathological process of rare occurrence relatively, and when located more coronary, a pink coloration can be observed in the dental crown of life to the dentin resorption added to the intense capillary proliferation of granulation tissue [18]. The process of external root resorption occurs anywhere along the surface of the root.

II. Methodology

It is a study of data collection through a bibliographic survey, through the databases: SCIELO, PUBMED, LILACS, the descriptors of the study were collected by the DECS - descriptors in health science, in which the articles selected vary between from 1981 to 2013. It is an integrative review of literature based on collections that dealt with root resorptions. Articles that addressed root resorption during orthodontic treatment were excluded.

III. Results And Discussion

The recognition of causes of reabsorption is fundamental for diagnosis and treatment, among the main causes, for external inflammatory resorptions, we have dental reimplants, excessive orthodontic and occlusal forces, dental fractures, pulp necrosis, root scaling, cysts and tumors, pulpotomy and restorative treatment . For internal resorption, chronic pulpal inflammation, restorative treatment, orthodontic movement and hereditary factors constitute the main causes [15 '26' 19].

Radiographically, internal root resorption presents as a radiolucent, symmetrical, ovoid or rounded area, well circumscribed, and may involve one or more walls, inside the root canal [21]. Therefore, from the radiographic image it is verified that the contour of the pulp boundaries undergoes a relatively symmetrical expansion of ballooning aspect and regular and rounded contours, especially when present in the root [26 '18' 3]. In the crown, the generated radiolucent area also has a regular contour, but the ballooning aspect can rarely be observed [3]. Once the diagnosis has been established, the treatment of internal resorption consists of performing the pulpectomy.

In external resorption, the classification is according to clinical and histopathological characteristics, being divided into: external superficial resorption, external inflammatory root resorption and reabsorption by substitution. External resorption derives from several situations; can have physiological origin, caused by orthodontic movements, by trauma, teeth included or even by inflammations, causing the apical inflammatory resorption or cervical inflammatory resorption.

In external surface resorption, the root surface shows a repair resorption gap with new cementum or cementoid. This lacuna has been called superficial reabsorption, suggesting its occurrence as a response to an injury located in the periodontal ligament or cement [1].

External inflammatory root resorption is subdivided into [2] cerv cervical and apical resorption, and is a progressive, painless root resorption occurring on the cervical root surface, below the epithelial insertion of the [25 '2] tooth.

Lastly, substitution resorption, which is usually due to dento-alveolar ankylosis, secondary to periodontal membrane damage after severe dental trauma, such as avulsion and intrusion, has a pre-pubertal age prevalence of patients at that age had a high turnover rate of the [8 '23' 2] face facial tissues.

However, it is believed that in order to initiate the process of root resorption, it is necessary that an injury to the non-mineralized tissues covering the external surface of the root, such as the pre-cement, and the inner surface of the root canal, -dentin and the odontoblastic layer [12].

Factors related to the etiology of resorption are trauma, reimplantation, transplantation, surgical and restorative procedures, dental fracture, orthodontic treatment, excessive pressure of impacted teeth or tumors, bleaching agents, pulpal and periodontal inflammation. Regarding the types of resorption, according to [26'2111], internal resorption, its etiology is not fully established, with most authors agreeing that trauma is the main etiological agent. However, they believe that it may be related to other factors [26], such as pulpites, and, affirms that caries and deep restorations are the main etiological factors [3].

On the treatment of internal resorption, [10] advocate the biomechanical preparation of the canal, thus proceeding to mechanical removal of inflamed or necrotic pulp tissue and irrigation of 5.25% sodium hypochlorite. The diagnosis of external dental resorption is usually detected by occasional radiographic findings, with a radiolucent area with irregular borders and at different root heights. Usually the treatment is endodontic and has a poor prognosis, and the earlier the detection of reabsorption, the better the prognosis, say [20].

A differentiated diagnosis between internal and external resorption is essential because they represent different pathological processes and, consequently, require different treatment protocols. The differential diagnosis between internal and external root resorptions through the radiographic image presents nuances that are often difficult to identify. In principle, these difficulties are greater, as well as the smaller the professional training for this mister [12]. Thus, the more knowledge the dentist has about the types of root resorption, more effective will be the treatment of the patient. The dentist will look at both clinical symptoms and x-rays. Such methods require careful examination by the dentist so that he can observe if there is a presence of resorption and which type, therefore, it is interesting to use them as complementary methods, that is, they are complete.

IV. Final Considerations

It has been observed, in view of the collections in question, that it is necessary to recognize the causes of root resorption for a correct diagnosis and an effective treatment. A differential diagnosis between internal and external resorption is essential because they represent different pathological processes and, consequently, require different treatment protocols. In view of the above, it is relevant to research on dentin resorption, since the scientific knowledge of the etiology and the mechanism of development of root resorption contributed decisively to the definition of an adequate treatment for each case[22].

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