

Dr. Sanchez Curettes for Root Concavities Decontamination

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Introduction

Some anatomical conditions can promote plaque retention, making difficult its removal and facilitating incidence of periodontal lesions [1]. Therefore, the tooth anatomy can play an important role in the periodontal disease etiology, acting as a predisposing factor [2]. Several anatomical root characteristics have been studied and related to the diagnosis, prognosis and treatment of periodontal disease [3,4]. Within these morphological changes we can mention the cervical enamel projections, the palatal radicular groove, the enamel pearls, the cervical enamel projections and the root concavities [2,4-10]. These were studied in superior and inferior first molars, superior first molars, inferior first molars, superior first pre-molars, inferior canines and central incisors, superior lateral incisors and superior and inferior first and second molars [3,7,11-16]. Fox and Bosworth (1987), as well as Ong and Neo (1990), measured the width and extension of proximal concavities in several groups of teeth [17,18]. They found that concavities are present in most human teeth, a fact that can complicate periodontal therapy, as well as repair dentistry, if ignored. Thus, root grooves are known risk factor for periodontal diseases.

Discussion

It's very important that clinicians observe the radicular concavities in the daily lives. Booker & Laughlin (1985), Fox & Bosworth (1987), Roussa (1998), Sanchez & Pustiglioni (1998), Storrer et al (2006) Sanchez et al (2009) concluded the importance of concavities in order to enhance the diagnosis, periodontal treatment and prognosis, as well as reparative dentistry [7,13-15,17,19]. Leknes (1997) published a literature review about the importance of the influence of anatomic and iatrogenic and root surfaces characteristics on bacterial colonization and periodontal destruction [2]. As the periodontal disease develops, the root surface is exposed, disclosing anatomical details which were previously covered by periodontal tissues. These details are not significant in a healthy periodontal tissue; nevertheless, they can contribute to the exasperation of the existent periodontitis [20]. According to Smukler (1989), only interproximal tooth brushes can access proximal root surfaces concavities; special dental flosses are able to clean concavities with moderate depth [4]. On the other hand, the ordinary dental floss appears to reach only plain and convex surfaces. Pustiglioni & Romito (1999) analyzed the influence of these anatomical variations in the loss of attachment detected in

sites with periodontal disease [19]. Sanchez et al (2009) emphasize that anatomical variations cannot be underestimated during clinical examination, diagnosis, prognosis, surgical treatment and at periodontal maintenance period [15]. Complementary exams as tridimensional topographic images (cone-beam) can aid the measurement of periodontal bone defect depth as well as the visualization of the concavities below the CEJ, avoiding future periodontal attachment loss [6].

Conclusion and Development of Dr. Sanchez Curettes

The root concavities represent an important anatomical characteristic. In the regions of the middle of dental roots are the greater widths and depths of concavities, There are also the richest areas in periodontal ligament, representing the fulcrum of the teeth. Between 4 and 6 mm, on average for all human teeth, is the middle third. From 4 mm, you can find the furca, that is, at the beginning of the middle third of the root, you can also star a bifurcation. In addition, clinically, when we performed the probing, when we reached 4mm in the analysis of insertion loss, we can use this measurement as reference for a diagnosis of fulcra lesion. All these characteristics call attention to the need of periodontal instruments that adapt more adequately to the root. Existing instruments, while effective in a certain way, do not have the appropriate design for the treatment for these regions. They are very useful for anatomical regions convex or almost flat, but not for the concave.

It's important to emphasize that without the correct root decontamination, we perpetuate, mainly in the concavities, a niche of bacterial deposit. Thus the process of loss of the dental element is potentiated and in course of this process, the risk of chronic degenerative diseases related periodontitis. It's Periodontal Medicine in evidence. Therefore, after a critical analysis of this subject, by studying the research line of the University of Sao Paulo, of which my Masters and PhD thesis were part, I developed a curette Kit. These instruments are unpublished and of excellent application, both for the clinician and for the specialist. The active parts of the curettes have, which facilitates the adaptation of the same to the concavities of the roots by medial and distal, especially in the middle thirds, considerably improving root decontamination during the scrapping procedure. They may also be used in regions of root trunks, fulcra or the clinical criterion [21].

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