

The positioning of prosthetic Margo against gingival Margo, cause or not, of periodontitis

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Abstract

Background: The long, severe contour of prosthetic margo, remnants of cement used for adhesion, these are elements that affect the periodontal status of gingival margo, and then, the care of oral hygiene by the patient, affecting further aggravated gingival infection to fixed further in periodont.

Methods: The experiment was conducted in 3 mice, to which were placed metal artificial crowns. It was controlled the effect of the mechanical action of prosthetic margo, established subgingival, against the marginal gingival tissue.

Results: The periodontal status was performed 1 week, 2 weeks, 3 weeks and 1 month later, after placing the crows. After 2 months, was taken the samples of saliva for laboratory, to analyze the bacterial flora in the areas of the presence of gingival margo at the prosthetic crown.

Conclusions: The presence of plaque that is not mechanically disconnected from gingival sulcus, influences the periodontal diseases that shows its characteristics, reflected significantly after 7 days, after 14 days, after 21 days. Signs of gingival inflammation are significant features of the evolution of related of periodontal illness, according to these dates already referred to us above.

Keywords: Experiment; Margo; Mice; Periodontitis; Prosthetic

1. Introduction

Properly contours of cervical part, prosthetic margo positioning, accuracy, smoothness of the edge of the prosthetic margo of the crown, allow these affect the gingival health, for the fact whether or not serve as a natural stimulant. In the past, the contours of prosthetic crowns, the oral and vestibular side of it, are created in order to display the maximum protection against margo, to direct gingival and food waste to the ceratinized gingiva. Therefore, the crown is about 0.5mm more rounded. Fillings usually follow the form of the teeth, so is done with prosthetic crown also.

Preventive extent by Black leads in subgingival positioning of the crowns and the fillings, as according to the author, so will not appear secondary caries and since we had no bacteria at sulcus, according Theodore M. et al. 2006. Based here and seeing that, in some cases appeared serious infections, outweighed the guilt, the materials used. Visualizing such opinion, the infection was caused by mechanical irritation by the severity of the used materials. Some tests and examinations confirmed that the infection was severe to restored sub gingival surfaces, compared to the same corresponding opposite teeth. Newman et al. 2004 discovered later, that sulcus was not sterile to the subgingival outline of the prosthetic crowns not rarely appear even secondary caries compared in frequency with displaying these elements in case of crowns with supragingival outline. These facts showed that subgingival extension not achieve the purpose, do not show the secondary caries, and even periodontal disease help the creation. They confirmed that the infection does not come from the frustra-

tion of harsh surfaces, but these surfaces were good opportunities to create bacterial plaque. Subgingival restorations contours not only add the amount of plaque, but also the composition of urging against a non-proper direction.

The plaque retention and increased infection are created by the restoration technically wrong. Cavity or under, or further fill, even between the cavity and filling, can create scale. In the same way the contour of the prosthetic crown can be long, which adds to the rough surface of the adhesive cement. Technically, the thickness of the adhesive cement should be about 100 micrometers. Retentive surfaces further boost cement melting. In the same way, also operates thick contour of prosthetic crown, as well as waving or harsh contour. All these facts on one side, start with the creation of plaque, on the other hand it is difficult even making it impossible to remove it.

If we speak of a regular patient in the protocol of keeping clean the teeth and the oral brush can be inserted under the level of gingival margo, up to 0.5mm, enabling the removal of plaque in this area. Given these facts, then and when it is possible, we try to put contours of restorations at supragingival level, as this position has more advantages.

2. Materials

The study includes experiments conducted in mice, for the foregoing purpose. The experiment was conducted in 3 mice, at which were placed the artificial metal crowns. After that was checked the

effect of mechanical prosthetic margo, established sub gingival, to marginal gingival tissue.

Mice have four kinds of teeth, which differ in form, function and position in the mouth. Mice have incisors and molars. Incisors are four frontal teeth, long, sharp, two high and two positioned below. Incisors of the mice are specialized for cutting. They are open rooted, meaning that grow throughout life. The molars are used for grinding food before swallowing. The rats have 12, six in the mandible and six in the maxilla (positioned three on each side of the jaw). According Matthew et.al.1999, mice have only one set of teeth throughout life (so called monofiodont).

Mice do not have canine (sharp teeth used for keeping edged, for protection), or premolar (after canine molar teeth). Mice have a considerable edentulous area in their mouth, called diastema.

The upper incisors are shorter and yellow, than to the lower. The upper cutter are about 4mm long and 1.5mm wide, and the lower are about 7mm long and 1.2mm wide (Weijs 1975).

The root cutters are open, which grow throughout life (Addison and Appleton, 1915). If allowed to grow up without resistance, the incisors rapidly are growing at spiral angle 86 degrees (Herzberg and Schour1941).

Incisors of rats grow out 8-10 days after birth. Reports erupted cutters is very high, with an average of about 2.2mm per week (0:31 to 0:32 mm per day) and the lower incisor 2.8mm per week (0.4 per day) (Addison and Appleton, 1915). It takes about 40-50 days of total regeneration of a tooth, from the base to the blade. Effectively, the whole tooth may be not older than 40-50 days (Schour and Massler, 1942). The pulp cavity of the tooth almost reaches the bottom, but each end filled with strong material, granular osteodentine, so sensitive pulp cavity with exposed not currently (Addison and Appleton, 1915) (Shayne C. Gad, 2007). When mice chew, it raises the lower jaw teeth cutter before bringing in contact with each-other and brings out the molar contact. In this way, the upper cutter holding facility in the lower and expect incisors against the upper incisors.

3. Results

At rats was taken the measure for fixed crowns at mandibular incisors. The measure was poured and then were shaped metal crowns. "Meron" was conducted for cementation. The stages of work are reflected with accurately through pictures in the figure below from 1 to 7.



Fig. 1: On the Picture Is Reflected The Procedure of Measures Being Taken. Measures Taken with Silicon are Done with Two Stages. Care Was Taken that the Jaws of Mice Be Open, in Such A Way that Upper Incisor Not Pierced by Sudden Movements and Powerful, Lower Silicon Mass.



Fig. 2: An Overview of the Measures Taken. There was an Attempt as Possible; The Final Contour Distinguished Claiming to Reach the Crown of Metal.



Fig. 3: The Crown of Metal, Demonstrated in the Model.





Fig. 4:The Cementing Procedure Is Shown in the Picture. “Meron” Is Used for Cementation of the Crowns on Natural Teeth.

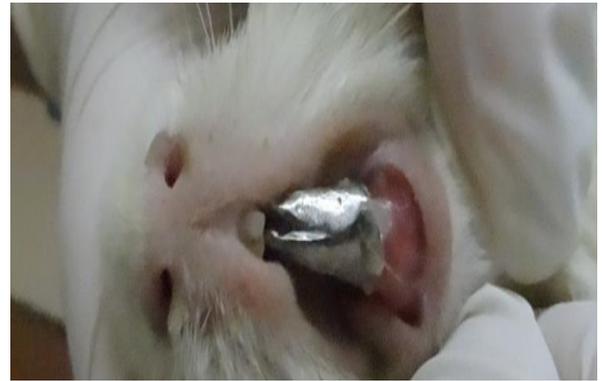


Fig. 6:Planting of Bacterial Flora of Sulcus Is Another Procedure Performed on Mice.

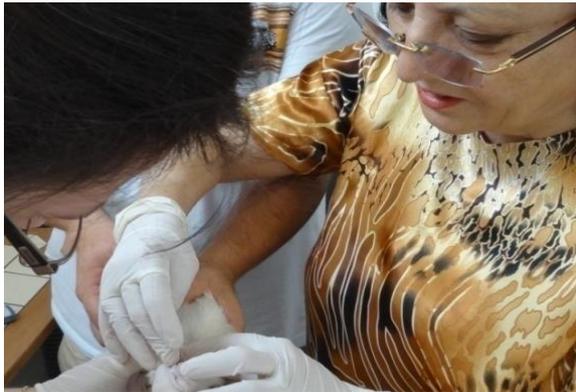
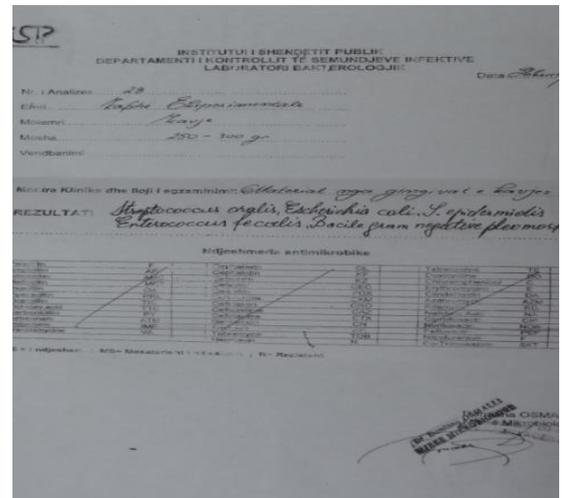


Fig. 7:Type the Bacteria after Planting Analysis of Gingival Fluid.



The periodontal status checks were performed 1 week, 2 weeks, 3 weeks and 1 month later, after placing the crowns. After 2 months, planting was taken samples for laboratory to analyze the bacterial flora in the areas in the presence of gingival margo of the prosthetic crown.



Fig. 5:The Controls were Performed 1 Week, 2 Weeks and 3 Weeks Later. Inflammation of the Gums Distinguished at Marginal and Engraved Inflammation of the Gums, Distinguished at Fixed Gingival Also.

4. Discussions

At the table below (Table 1) are listed advantages of supragingival preparation, data taken from the book "Clinical Periodontology" of Carranzas as author, year of publication, 2006. From the foregoing, and for the reasons above, the prosthetic crowns to mice that were completed outline easily enter inside sulcus. During the cementing did not appear in the marginal gum, bleaching of gums, during of bonding of metallic crowns. Excess cement was cleaned. Controls were carried out after 7 days, after 14 days, after 21 days after 1 month. During inspection was completed picture that was more for the purpose of documenting the stages of gingival inflammation. There were seen the same reactions in patients who pay attention to oral hygiene. To the three mice, we controlled at the third week, then after 21 days, there was gingival recession, this ability due to mechanical cleaner having fibrotic with food are fed rats. It is known that the main com-

batants plaque mechanical cleaning. This was last done in mice by fibers which are redundant with rich food that is preferred to mice. The same facts and supported by experiment results based on periodontology, conducted on reversible effects of plaque to teeth-retaining structures.

Table 1: Advantages of Supragingival Contour Compared With Subgingival Contours.

	Subgingival	Supragingival
Tooth preparation for prosthetic crown	No vigilance viewed	Viewed vigilance
Expansion of sulcus	Necessary	Not necessary
Mass	Difficult to be performed	Not difficult to be performed
The temporary crown	Leads to infection of gingival margo	No leads, in gingival infection margo
Model	Contours should be checked	There will need to be checked contours
Prosthetic crown evidence	The control is difficult	Control is performed with ease
Cementation	Can cause tissue damage	It does not cause tissue laceration
Removal of plaque	It is difficult to be performed	It is not difficult to be performed
Visit to control	It is difficult to be performed	It is not difficult to be performed

After 3 months of placing wreaths microbiological samples were taken gingival fluid. It was planted in blood agar and the results are reflected in the microbiological analysis sheet, reflected in Fig.7. All prosthetic crowns, with margo placed subgingival, demonstrating increased microbial colonization to cults prosthetic varying time intervals 1 week, 1 month and 2 months, respectively, after the establishment of fixed prosthetics.

Consequently, this may affect periodontal health of prosthetic cults (Dhanraj et. al. 2013). There are noticed some changes in gingival fluid characteristic elements. Based on the studies were noticed changes in quantity, acidity, the concentration of interleukin 1, as the basis of indicators of microcirculation the edge of periodontal tissue, on artificial crowns. These elements can serve to aid in the prevention of periodontitis chronic characteristic for these clinical cases (Chang et.al. 2014).

5. Conclusions

The presence of plaque that was not mechanically detached from the gingival sulcus, influences periodontal diseases, that show its characteristics reflected significantly after 7 days, after 14 days, after 21 days. Signs of gingival inflammation are significant features of the evolution of periodontal diseases and are under these days already referred above

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