BIOLOGIC MANAGEMENT OF ENDODONTICS

Usage of Traumeel on root canal treatment

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ABSTRACT

Lately, interference fields with systemic repercussions resulting from dental treatments have been identified. One of the main producers of these interferences are root canal fillings, specially due to the type of material used as filling cement.

The search for an ideal substance for root canal fillings has been difficult up to date, because many of these substances may fully possess the adequate physical and chemical properties but since they are highly irritant for the basal regulation system, they are not considered entirely satisfactory.

With this study we offer a management alternative where the antihomotoxic substance **Traumeel** is used as a replacement for conventional substances, thus opening new deepening lines in order to consolidate its usage.

'It is preferable the anguish of the search to the peace of conformism'

INTRODUCTION

In recent years we have witnessed an important increase on the knowledge of the so-called alternative medicine, which has resulted in a higher acceptance from the community, as well as from the different layers that make up the medical science. Achievements in these areas have reached an accelerated growth, but in the practice of these different application sistems of medicine, a great number of obstacles that hinder the access to the most longed for degrees of cure have been found, conforming the named **INTERFERENCE FIELDS.**

An interference field is defined as any element which alters the normal flow of information through an organism to a zone that does not properly conduct the energetic impulse or to a depolarized zone. It is also considered an interference field the presence of non-disposable materials for the body, constituting all the latter, at last, a real **'biocybernetic noise'.**[1]

Through an exhaustive analysis of the interfering fields, several mechanisms and different elements which allow us to overcome these hindrances in most cases have been identified, but nowadays, a great draw back to almost the total of the different therapeutic systems which acts as a great barrier to the wellbeing of patients has been identified, and they are the **INTERFERENCE FIELDS** located in the oral cavity.

Mankind has experienced at the same time as witness and main character the unusual development science and technology have reached. In this context we see how health sciences offer great progress on the research of the mechanisms that produce diseases, but at the same time we notice that only recently researchers have begun studying how to reach a harmonic balance of all the forces that determine the health condition of a human being. For many years, medical science was based upon predetermined ideas from the times of Sir Isaac Newton that described the human being as a perfect and complex but predictable biologic machine, and how this axiom has produced the development of diverse health and disease models, based always on a mechanistic frame, typical of the knowledge organization that fostered the specialization of the practice. As part of this conceptual limitation, we find the divorce existing in the last few years between medicine and dentistry, considered the one a science of totally opposed causes, consequences and methodologies, thus conducing to the generation, in some cases, of pathologies in one, as the consequence of the methodology of the other.[2]

Located within this conceptual background, we have been developing all of our not only professional but researching activity, aimed at pursuing the least harmful professional practice. That is why our interest has focused on the identification of the elements that in a way or another, make part of the genesis of interfering fields, in order to develop new strategies aimed to overcome them and to be capable to offer therapeutic

alternatives based on the application of biologic behaviors, through the experimentation of more biocompatible substances that produce results always insert in the **PRIMUM NON NOCERE** bioethical principle.

THEORETICAL BACKGROUND

The beginning of the present research is based on observations made by doctors Ferdinand and Walter Huneke while developing their therapeutic model: Neural Therapy. The identification made by them and by other autors, such as doctors Peter Dosch and Ernest Adler, to name a few, about the interfering fields produced in teeth, led them to consider the pulling out of an important number of dental pieces as the sole alternative to achieve health for their patients. Notwithstanding, the persistence of pathology in many of these patients, together with these so radical behaviors, yielded rejection from many of them, and at the same time from us, the odontological community, who nowadays defend the preservation of the largest number of dental pieces as well as dental tissue; and we consider the preservation of the health of the human being should not be opposed to the aesthetic and phisiology the oral cavity and its components offer.

This motivated us to study every day in the most detailed way, all the aspects related to dental function and to search for the materials of odontological use which offer the highest biocompatibility and at the same time do not produce any kind of alteration capable of causing local (of odontological interest) as well as systemic (of neurofocal and medical interest) consequences.

All these concerns brought up several papers, such as the ones developed by doctors Reinhold Voll and F. Kramer, where energetic relationships between the oral cavity and

all the body are fully identified. Based on the knowledge of these tables, and together with the demonstration of the 'dental cores' and the interfering fields concepts, it has been possible to identify metallic restorations in the oral cavity as one of the main problems, since due to their different electrical tensions they produce a discharge of ions and electrical potentials that, in most cases, exceed the levels of organic tolerance.[3-4] This has led to suggest their replacement with some materials developed by conventional dentistry, such as lightcure resins, glass ionomer, waxomer, etc., avoiding in this way the usage of metallic components such as odontological gold, metals existent in silver fillings and other metals suggested for odontological use.[5]

Neurofocal dentistry plays nowadays a prevailing role within the development of biological medicine, since the starting point or the unchaining cause of a systemic disease may be found in the oral cavity, or through this place the body may reflect a remote pathology.

With all the neurofocal basis in mind, the need of providing the medium with appropiate solutions arised; for that reason we accomplished the design and supply of a biological innovative alternative: the usage of INTRARADICULAR RETAINERS MADE OF BOVINE BONE as a replacement of the traditional metallic cores used in odontons with previous root canal filling, which have been acting as true irritant spines. The usage of cores or intraradicular retainers made of bovine bone offers great advantages, such as absence of galvanism, a higher biocompatibility, great resistence and excellent

aesthetic appearance, to be applied in an area of dentistry without previous alternatives.[3-4-6]

'It is preferrable to lit up a candle than to curse darkness'

Anonymous.

In spite of all these efforts, with which the interfering field of electrical origin and in some cases of chemical origin may be overcome, it has been possible to prove how in some cases the root canal filling keeps revealing itself as an interfering field. With these cases revised, we have been able to identify that the persistence of such irritant action is determined by the components of the substances used in the preparation and filling of the root canals, due to the local irritation caused with its usage. These substances affect the elements of the basal regulation system, which is highly sensitive to variations. Trying to understand what really occurs, it is necessary to know the way the basal regulation system works. We know that, to be able to live, each cell needs an adequate medium where all the functions that favor its normal development take place. Besides, it is known that the extracellular matrix is composed basically of polymeric sugars partly unified with proteins (proteoglycans and glusaminoglycans) which retain water and due to their negative charge produce the ionic exchange, thus influencing all processes developed in the interstitial space.[7] According to Pischinger, active connective tissue is the base of all information, of the core and of the interfering field and it is also the place where it exercises its immediate effect, interfering and impeding regulations. If the extracellular matrix is damaged or interfered with, the organ function suffers. Such tissular changes are also changes in the tissue potential which cause

disturbances in the whole vegetative system. If the functions of lax connective tissue are hindered by interference cores or fields, the immune system is constantly overcharged and the defensive mechanism of the body is damaged progressively.[8] Having in mind the nature of substances used in endodontic treatments, we can conclude that they are likely to be the producers of interfering fields difficult to overcome which are found in diverse medical therapeutics.

It is necessary to say that the substances used in endodontics are classified in three groups as follows:

- Substances for irrigation of root canals
- Antimicrobial agents
- Filling (sealing) substances for radicular canals.

The evaluation of endodontic material in terms of safety, effectiveness and adequacy may be done in three different ways: evaluation of the physical properties of the material, of its biological properties and of its clinical usefulness.[9-10]

Of filling substances we may say that the most commonly used are based on formulas with zinc-eugenol oxide, among which we can name the Rickert, Grossman and some other formulas where only the components vary in powder as well as in liquid. Being zinc-eugenol oxide the most widely used mixture, we may observe remote evidences that prove its irritant action on periapical tissues of human teeth.[10] There are several works that demonstrate the aggressive action of this cement over live tissue; and after

the apical and periapical region of teeth whose canals were filled with zinc-eugenol oxide cement were submitted to histological analysis, a chronic inflammatory infiltration that subsided even after more than eight years was found.[9-10-11]

It is important to mention that the ethiological elements involved in the inflammation of dental pulp may be divided into four general categories: bacterial, iatrogenic, traumatic and idiopatic, and that the inflammatory process of the pulp is basically the same as in any other connective tissue of the body. Nevertheless, several elements combine to modify the answer in a certain degree:

(A) Pulp is unique because it is connective tissue almost completely surrounded by hard tissue: a dentine wall. This limits the expansion area of pulpar tissue and restricts its capability to tolerate an edema.

(B) A limiting factor to the healing capability of the pulp is its almost total lack of colateral circulation. A few large vessels irrigate it through the apical foramen and small vessels which penetrate through side or annex canals, but this system does not compare favorably to colateral circulation of other connective tissues. This factor, combined with (A) severely limits the capability of pulp to confront necrotic tissue and debris.

(C) Pulp is the sole organ that can produce a structure restoring dentine to protect itself from aggressions.[9]

MATERIALS AND METHOD

Experience obtained directly from the management of diverse kinds of inflammatory processes, through the usage of biological drugs, led us to progressively extend its usage to pathologies of similar occurrence in the oral cavity. Based on that, we have been able to gather a great deal of cases with very good results on endodontics management, medicated in pre-operatory, operatory and post-operatory ways with the homeopathic preparation **Traumeel**, from Heel Laboratories. Due to the excellent results gathered during the last few years with the usage of Traumeel, and aware of its regenerative, anti-exudant and anti-inflamatory effects, determined by its individual homeopatic components, which follow:

Arnica, stimulates reabsorption of blood extravessels;

Calendula, promotes the development of granular tissue and acts as pain-releiver;

Hamamelis, acts as anti-inflammatory and pain-releiver;

Echinacea, stimulates mesenquimal defenses and acts as anti-inflammatory;

Chamomila, supports granulation tissue;

Symphytum, favors cicatrization of bone tissue; and particularly

Hypericum, which has an important tropism to nervous system injuries, such as those suffered among operatory processes developed in richly innerved areas, e.g., dental pulp, we started the first tests in the root canal treatments using this homeopathic preparation aiming to reduce the adverse effects that occur when using the different existing commercial preparations.

Within the research project the following combinations and outline have been used:

1-. TREATMENT OF NON-INFECTED ROOT CANALS

1.A. Irrigation of the canal with Traumeel injectable solution (whose vehicle is sterile isotonic NaCl solution) prior to the sealing of root canal and during biomechanical preparation.

Preparation of filling material: Traumeel ointment (whose vehicle is ethilic alcohol, emulgent stearic, liquid paraffin, purified water, ethanol 96%) combined with zinc oxide whose mixture contains zinc acetate, which works as reactor for hardening purposes.[12]

1.B. Irrigation of the canal with Traumeel injectable solution (whose vehicle is sterile isotonic NaCl solution) prior to the filling of radicular canal and during biomechanical preparation.

Preparation of filling material: Traumeel ointment (whose vehicle is ethilic alcohol, emulgent stearic, liquid paraffin, purified water, ethanol 96%) combined with Coltosol (zinc oxide, zinc-1-hydrate sulfate, hemi-hydrated calcium sulfate, diatom soil, dibutilfalfate, polivinyl chloride acetate copolymer and mint fragance).

2-. TREATMENT OF PREVIOUSLY INFECTED ROOT CANALS:

Irrigation of the canal with Traumeel injectable solution (whose vehicle is sterile isotonic NaCl solution) prior to the filling of root canal and during biomechanical preparation.

Preparation of filling material: Traumeel ointment (whose vehicle is ethilic alcohol, emulgent stearic, liquid paraffin, purified water, ethanol 96%) combined with zinc oxide (ZnO) and calcium hydroxide.

In this case we use calcium hydroxide Ca(OH)2, which due to its high pH (12.4) works as antimicrobial agent, because in spite of its low solubility, Ca(OH)2 hidroxile ions separate in such a slow and sufficient manner as to cause bacterial death and work for long periods of time[13] This antibacterial effect is considered of a high spectrum because no pathogenic microorganism within the canal able to survive in contact with this pH, which produces protein denaturalization and lisis of bacterial bodies, has been found.[14]

For canal sealing we use gutta percha cones since sealer cements and pastes related to these cones are highly important elements as sealing agents of root canals because they are the closest to hermetical sealing as long as they have been correctly instrumented.[10]

POPULATION

Twenty-eight patients of both sexes with ages between 19 and 55 years old, were selected. They attended the clinic of the *Colombian Association of Neurofocal Dentistry and Biological Medicine* and their odontological management demanded root canal fillings. This group was compared to a sample of 50 patients selected at random, most of which attended different treatments, but through the analysis of their panoramic x-ray studies we could confirm the existence of root canal treatments which acted as interfering fields.

The twenty-eight selected patients had root canal fillings using one of the combinations of Traumeel ointment described in the chapter of Materials and Methods of the present study, adhering their choice to the stablished parametres for each particular case.

For the beginning of the procedure we got an authorization from each patient through full informed consent in order to comply with the existent bioethical requirements.
A total of 52 canals were filled, and according to the type of endodontics performed they were classified as follows:

Uniradicular:	15 patients
Biradicular:	2 patients
Multiradicular:	11 patients
	28 patients

RESULTS AND OBSERVATIONS

It is important to emphasize the lack of painful symptomathology during the day the filling was performed and on the days to follow, according to subsequent clinical examinations versus what those patients who have root canal treatments with conventional filling cements declare quite frequently.

When evaluating the behavior of a root canal filling as an interfering field, there is an outstanding reduction of cases where this behavior is observed, since it appeared only

in four of the patients (11.2%) treated with this therapy, while in the controlled group it was found in 46 of the patients (96%).

We must record that the 4 patients of the Traumeel group with interfering fields showed chronic periapical injuries which as dental cores produce irritation of the basal regulation system.

Within the controlled group we could also observe the interfering fields behavior not only in a few odontons with root canal treatment with chronic periapical injuries, but also in some other that apparently showed a well performed root canal treatment and with normal periapical area.

We found that the patients whose root canal treatment have been performed using this therapy have a great advantage over the conventional ones because there is a lack of symptomathology and at x-ray level periapical alteration has not been observed, except for those cases where the injury had been previously noticed with x-rays.

The hardening time is quite slow for the antihomotoxic Traumeel medicine; nevertheless, future improvements on its physical properties might provide the treater with better materials for endodontic use with this medicine as a base.

CONCLUSIONS

For the odontological profession, the search for an ideal substance for root canal treatment has been difficult up to date, because many of these substances may fully possess the adequate physical and chemical properties but since they are highly irritant for apical and periapical tissues, they are not considered entirely satisfactory.

Observations made up to date with this model forecast very promising results, which offer multiple possibilities for producing deepening lines at different assesment levels in order to consolidate the usage of Traumeel ointment as constituent part of the ideal filling cement for all endodontic treatments, ensuring a lack of adverse effects, which in turn would expedite the achievement the expected goals of all those therapeutics that regard endodontics as an unsurmountable hindrance and, moreover would allow to produce a new and wide horizon in the odontological practice.

Ongoing improvements on non-surgical endodontic therapy will reduce the need for performing apical surgeries, which are also generative of an additional interfering field determined by the presence of a scar and by the material used in a retrogressive filling.

The futurist proposition of current endodontics which concludes: *'in the future, extractions will be an exception but a rule for patients who value their teeth and understand the relationship between health and complete teeth'*[15] encourage us even more for the search of definite solutions.

This is how we complement the proposal we made previously with the usage of bone intraradicular retainers, providing an optimal and complete solution in oral health in service of mankind.

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