

The Treatment of Acute Periodontitis Through the Plasmatic Irradiation

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Abstract

The work represents the results of 75 stomatological patient monos or complex treatment through the new method of plasmatic irradiation. It is shown, that physiotherapeutic treatment by the plasmatic stream is much more effective then other well known physiotherapeutic procedures. Decreased the time of treatment, medicine. Immune modulation processes in body are stimulated. Is specified that the mechanisms, which are given the positive effect, defined by the accompanied of plasmatic stream radiation, ozone, its photolise products and pathological part of body interaction.

Key words: *Plasmatic irradiation, acute periodontitis, microplasmatic scalpes irradiator, analgesic effect*

Introduction

Plasma is a Greek word and means a curvature. When we use "plasma" we does not mean cell plasma used in medicine, but classified in physics as forth category substance condition. In comparison with the aggregate conditional temperature of a substance its a comparatively high - temperature, completely or partially ionized ether, but it's viewed temperature - wise as low ($t < 10^4 K$) or high ($t > 10^4 K$) temperature plasma. In laboratory conditions the low-temperature plasma is gotten through electrical discharge. We use low temperature plasma that is produced in semicircle unit during discharge in micro-plasmatrons where as a plasma creating gas inert gas is used. As a short wavelength part of solar radiation interaction with upper layer of atmospheric, ozone layer is being created around the stream too, that is coming out from plasmatron and is accompanying the stream during its existence. Plasmatic area is high energetic that is why it is mechanical transferor of the heat.

Materials and Methods

In the department of Maxillo-facial surgery of 4 Tbilisi hospital and clinical hospital of the Tbilisi medical academy since 1997 we have been using the microplasmatrone unit "ARIELI", which provides us with the possibility to influence the tissue through the plasmatic stream itself (the scalpel regime), as well as through a certain distance by the further neutral, excited stream, by the accompanying wide-spectrum electromagnetic irradiation and the biologically active ozone photolysis products with the helpful concentration of ozone in air, gotten through the ozone formed during the interaction of short wavelength part of this radiation with the air (The irradiation regime) [2,3, 4].

The plasmatic therapy, as an independent treatment measure, as well as one of the components of the , combined treatment has been tested on 75 patieents during the treatment of acute periodontitis. [1,6.]

55 patients of the basic group and 20 patients of the control group vere examined. In allthe cases of basic group alongside with the medication treatment we used the plasmic therapy. Exposition time did not exceed 3 minuts. The patient was experiencing thermal effect on

the skin and mucosal during the irradiation moment. The number of seances fluctuated between 3-5. In comparison with the physioprocedurs, treatment time decreased considerably.

Discussion

The advantage of the plasmic therapy is that it regulates microcirculation, stimulates reparation regeneration, and increases the cell, resistance to pathogenic agents, by means of which it shortens the time of treatment. The perception of intensity of pain is leased by the action of plasmic irradiator. Besides if it participates in the treatment process, accordingly we can reduce the use of antibacterial and only inflammation medicines, the days of illness reduced too.

It has to be taken into account, that the essence of plasmic therapy envirazes the influence of plasmic stream's accompanying wide spectrum electromagnetic irradiation not only on the upper layers of the skin, but also on the sub-skin and more deeper lying tissues and organs. Achievement of positive effect and the interest to the given method are conditioned by the following characteristics of plasmatic stream: spatially localized and regulated temperature, formed by speeded up stream of ionised and neutral gas. The result: sterilization, possibility of objects heating up to

necessary temperature; formation of the ozone layer and biologically active ozone photolysis products with the helpful concentration of ozone in air. The result: quick and effective healing, oxygen enrichment, the speeding up of oxidizing-recovering processes and antiseptic action. The presence of the continuous spectrum of intensive electromagnetic radiation from 0.3 to 22um and far in artificially directed space sector. The result: possibility of electoral choice or simultaneous usage of "helpful" radiation by the object and regulations of irradiation dosage with simple transference by the doctor's hand bacteria destruction (antiseptic action) by the absorption of the light radiation.

Results and Conclusions

In all the cases of acute apical periodontitis the results of treatment were positive, anti-inflammatory processes were noted also analgesic effect. Exudation processes became less. After 3 seances the patient's health conditions became satisfactory. Alongside with the abovementioned pathological processes together with the plasma therapy it is advisable to apply the cours of general health-care activities and stimulating therapy. As a result of application of "Plasmic Irradiator" in a complex treatment duration of the treatment decreased two times, the application of medicaments (specially of antibiotics) reduced, less bandage was used and treatment became cheaper [5].

References

1. Ingle J.I. "Endodontics", 4-th edition 1994, 940 p.
2. Nemsadze O., Okropiridze T. "Therapeutic Stomatology" 2001,406 p.
3. Nemsadze, G. Asatiani, T. Nemsadze, S. Jaiani, Republic Scientific-Practical Conference "Kutaisi", Medical itute, "Plasmatic Therapy", P. .28-30.1997.
4. Nemsadze, G. Asatiani, S. Jaiani. Maxillo-Facial Surgery and Stomatology Conference of Black sea Countries "Plasmatic Therapy in Maxillo-Facial Surgery", Tbilisi 26-28 September 1997; p. 27-28.
5. Nemsadze O., Asatiani G., Melikishvili Z., Chichua Z., Eradze M., "Plasmatic therapy in maxillo-facial surgery", international Journal of Oral&Maxilofacial surgery J<o 1, Volume 28,1999.
6. Wesselink P.R. " Root canals Filling" Quintessence, 1997, p 8-1

Лечение острого периодонтита методом плазменного облучения

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Р Е З Ю М Е

В работе представлены результаты моно- и комплексного лечения 75 стоматологических пациентов с помощью нового метода - плазменного облучения. Установлено, что физиотерапевтическое лечение плазменным потоком намного эффективнее сравнении с другими известными физиотерапевтическими процедурами: уменьшаются сроки выздоровления, количество медикаментов, стимулируются иммуномодуляционные процессы в организме. Показано, что биофизические механизмы, которые дают положительный эффект, определяются взаимодействием между сопровождаемым плазменный поток излучением озона, продуктами его фотолиза и патологическим участком организма.

Ключевые слова: *плазменная терапия, острый периодонтит, микроплазменный скальпель-облучатель, обезболивающее действие*