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THE GALVANIC EFFECT OF THE METALS IN THE MOUTH ON THE ACUPUNCTURE SYSTEM

Electric current in the mouth

- Metals that get into the mouth, either metal fillings or crowns, bridges or removable dental prostheses with a metal framework have electric features. This means that
- a certain voltage and amperage is induced within the milli-Volt (mV) and micro-Amper (μ A) measurement range, respectively.
- This may be the source of different *direct* and *indirect disturbances*.
- The disturbances created this way are called *electric load*.

The direction of the electric load

- on the nervous system
- on the acupuncture system

Effects on the nervous system

The new models of neural functioning that are based on the latest research talk about *ion channels*. This name is similar to that of the acupuncture channels.

Ion channels

- these are called *voltage gated* ion channels. Two basic types of them are differentiated:

the *Sodium channels* and the *Calcium-channels*.

Na - channels

- the Sodium channels are indispensable in furthering the neural impulse along the axon.

The channel opens as a result of an electric impulse, the so-called *action potential*. This action potential is nothing but the sudden change of the membrane potential.

Na - channels

As an electric stimulus reaches a given part of the cellular membrane, that is, the membrane potential changes, the Sodium channels at the area will open up.

Since the extracellular Sodium concentration is much higher than the intracellular one a Sodium inflow will take place.

The membrane potential

- the inflow of the Sodium ions changes the Sodium ion concentration as well as the membrane potential.
- This potential change will in turn open up the Sodium channels of the area.

Electric impulse

- This cycle is the basis of the process during which the electric impulse spreads along the membrane surface, that is, this is how the cyclic electric impulse is forwarded on the surface of the axon membrane.

Resting and action potential

The difference between the values of the resting and the action potentials is between **+60 mV** and **-90 mV**.

polarization

The plus and minus signs refer to the polarization, since the surfaces taking part in the ionic flow have different charges.

Calcium channels

- The *Calcium channels* start functioning when the stimulus reaches the nerve ending.
- At this point the potential-directed Calcium channels open up at the nerve ending, that is, at the synapsis, as a result of the electric stimulus. The Calcium ions flowing into the nerve ending cause the liberation of the so-called *messenger molecules*, called *neuro-transmitters*, which are stored in the *synaptic vesicles*.

Nervous system

axons

synapsis

the outflow of the neuro-transmitter

- This way the electric impulse is converted into a chemical impulse.

The spread of the neural impulse

Loads in the oral cavity

The pathological voltage sources within the oral cavity may influence the following:

- The building up of the neural impulse,
- The conduction and spread of the neural impulse,
- And the functioning of the synapses

Effect on the nervous system

- The metals in the mouth may cause permanent effects on the nervous system
The formation of Galvanic current

Galvanic battery

- In the course of chemical reactions an electric current, that is, electric energy is produced in the Galvanic batteries
- In a Galvanic battery the electrodes are made of metals. They are immersed into an electrolyte solution that is conducting the ions.
- An electrolyte can be either a saline or an alkaline as well as an acidic solution.
- The battery, that is the source of the current, may be produced out of any metal plus a saline solution.
- The metal fillings, crowns, bridges or metal prostheses play the role of the anode,

- while (an)other metal replacement(s) or the soft parts of the mouth, the mucous membrane play the part of the cathode.

Acupuncture channels in the oral cavity

The concept of the disturbing fields

- Every chronic effect in the oral cavity has a harmful influence on the energy flow in the acupuncture channels.

Disturbing fields

In case of slight headaches of unknown origin you often find a disturbed energy flow of the acupuncture channels belonging to the effected area.

Voll - values

It has been a well-known fact since Voll that the energy flowing in the acupuncture channels has some aspects that we can understand even today. These can be defined by, and measured in terms of,

- the voltage
- the amperage and
- the resistance.

Is Qi = electric current?

On the basis of the *contemporary* scientific measurements you could say that that *something flowing in the acupuncture channels, the Qi*, is but an electric current.

In a healthy person this current flowing at the point of measurement has an

- amperage of 9 μA , and a
- voltage of 870 - 890 mV.

In the Voll-type instruments these are regarded as the normal values. In a healthy person these values can be considered as standard and permanent.

The oral cavity as a source of electric current

- The metals that get placed in the mouth, be them metal fillings or crowns, bridges with metal framework or removable dental replacements with metal framework have electric features. That is,
- a voltage and an amperage will be induced by them within the mili-Volt (mV), and micro-Amper (μA) measurement range.
- This current can be the source of different *direct and indirect disturbances*.

Electric load

- The disturbances that have been formed this way are called *electric loads*.
- An electric load under 50-60 mV-, and 2-3 μA does usually not cause any problems. If, however, the load is above these values, a two-directional direct effect has to be reckoned with:

Two-directional direct effect

- The permanent stimulation exerted on the nerves of the facial area neural and neurological effects can be reckoned with on the one hand, and
- the energy flow of the *acupuncture channels* will also be effected on the other.

Permanent harm

In general it is fair to say, that

- in case of values higher than 500mV-, and 6-7 μ A both the nervous and the acupuncture system can become permanently damaged.

Facial pains

- the pains can appear along the nerves running on the area of the face. These can range from slight tingling to shooting or thunder-like nerve pains.
- The latter is often diagnosed as *atypical* neuralgia

Facial pains of electric origin

Permanent energetical blockades

At first

- functional disturbances, e.g.: local or irradiating pain can appear in the acupuncture channels, then
- organic alterations may be formed

The latter are due to the *distant effect* of the acupuncture channels.

Due to the electric disturbances and loads patients under acupuncture therapy will not, or just slightly, react to the treatment. The responses given to the acupuncture treatment may also be *atypical*.

„Disturbing fields” in the oral cavity

- deep carieses, inflammations of the nerves,
- bad root fillings,
- processes around the tip of the roots, like granulomes and cysts,
- **electric impulses** due to the metals, metal fillings and bridges with metal framework

mean a constant load for the acupuncture system.

Electric impulses

- When measuring the Galvanic battery effect of the metals in the oral cavity (metal fillings, bridges with metal framework, etc.) the values are almost always beyond 100 mV and 1 μ A, however, you very often get values above 500-1000 mV, 5-10 μ A which are critical.

**Voltage measurement between the bridges and the bottom of the mouth; 230-420 mV
between the bridges; 180-640 mV, The results of the voltage measurements (mV)**

Summary

The pathogenic voltage and amperage values of every

- chronic electric loading and/or
- dental metal replacements in the oral cavity

have a harmful effect on the energy flow within the acupuncture channels and the conduction of the nervous impulses.

Thank you for your attention.