Root 2 Disease – the root of evil
How are teeth involved in the origin of chronic diseases?
Root-treated teeth are dead teeth. Even the most perfect micro-endodontic treatment will not be able to realize a perfectly bacteria-proof sealing of the treated root. Accessory side canals and the endo-paro connection through dentinal tubules will always remain. The dead tooth, originally an organ with its own nerve- and blood supply remains as a dead tooth stump in the oral cavity. It will be populated by various, partly unknown species of anaerobic, pathogenic bacteria which degrade remaining organic tissue and secrete harmful metabolic products (toxins).

Toxins
These pathogenic bacteria produce as secondary products of their anaerobic metabolism highly toxic and potentially cancer-causing hydrogen sulfides (Thioether/Mercaptan) from the amino acids cysteine and methionine. By irreversible inhibition of the active center of many endogenous vital enzymes these toxins can become the cause of varied systemic- and organic diseases. The inhibition of important enzymes of the respiratory chain of mitochondria has been proved in vitro. Every chewing process releases these bacteria and above all their toxins into the lymphatic system of the surrounding tissue. From here they reach the bloodstream (focal infection) and the entire organism.

Which bacteria lurk in the dead tooth?
In a study of Siqueira et al. micro-organisms were detected in all endodontically treated teeth with apical inflammation, suggesting a chronic infection. If an inflammation of the root apex can be recognized in the X-ray, the failure rate of a root-treatment is increasing clearly based on the chronic infection.

Richardson et al. identified 75 different bacterial strains in root-treated teeth with apical ostitis. These bacteria can be found particularly often in and around dead teeth: enterococcus faecalis, capnocytophaga ochracea, fusobacterium nucleatum, leptotrichia buccalis, gemella morbillorum and porphyromonas gingivalis. Four of these abovementioned species affect the heart, three the nervous system, two kidneys and brain, one the maxillary sinus.

Immune response
The vital, healthy pulp (as part of the immune system) plays a crucial role in the defense of these bacteria. Often a chronic infection originating from bacterial colonization of the pulp leads to a chronic inflammation of the surrounding bone, the immune system is activated permanently. Macrophages activated by non-specific immune reaction release so called inflammatory mediators (TNF-alpha, IL-1, growth factors, prostaglandin (PGE2) and leukotriene) which circulate in the bloodstream. These inflammatory mediators favor the development or deterioration of chronic inflammations and autoimmune diseases. In addition, TNF-beta producing T-lymphocytes are stimulated. TNF-beta is suspected of promoting chronic diseases, as well as cancer. It is proven that TNF-beta increases the risk of postmenopausal breast cancer.

T. Rau at the Swiss Paracelsus clinic was able to demonstrate a clear correlation between breast cancer and teeth. He found that more than 95 % of his breast cancer patients had root-treated teeth in one or several teeth of the stomach meridian, in contrast to 35 % with healthy patients.
Diagnostics

What are interference fields?
The „interference field“ concept in the human organism assumes that an inflammatory process in a particular region of the body can cause a reaction in another area of the body or can lead to therapy resistance (chronification).
The classical interference field diagnostics performed by dentists is the assessment of X-ray pictures/clinical findings and their allocation to medical findings of the respective treating field.

Interference field diagnostics
Teeth belong to the most important subsystems within a network of self-regulative parts of the organism. Teeth and their related periodontium (= odonton) are linked to other physical structures and organs. Odonton was coined a term by Reinhard Voll: he identified the direct and close interactions between odontons and various areas of the body.

X-ray diagnostics/clinical diagnostics
Neural therapy: test injection with 1 % procaine:
in principle, the injection creates a sort of temporary restart for the respective region. By using the viscerocutaneous reflex the brain is stimulated to pay more attention to this body area, the potential interference field is disconnected from its corresponding organ for a certain amount of time. In addition, procaine is broken down by enzymes into two components (PABA and diethyl amino-ethanol), causing a reinforced blood circulation and vascular formation in the related area, as well as the stabilization of nerve cell membranes by a normalization of their action potential.

What can be determined by the OroTox®-test?
Instead of a microbiological analysis the OroTox®-test detects thioether and mercaptan, both bacterial metabolism products.

The probability to suffer a sensitization by mercaptan/thioether with high, positive, local OroTox® values is 25 times higher than without high OroTox® values.

OroTox®-test provides clear information about intensity and probability of systemic immunological sensitization by Mercaptan/Thioether.

Patients are asked to observe all subtle changes in their physical conditions after the injection for about 24 hours. Often a so called “second phenomenon” (Huneke) is triggered. Particularly the shoulder arm syndrome shows spontaneous improvement. The effect should continue for about eight hours to identify the suspected tooth as a clear interference field. The anesthesia itself is of short duration and mostly ends after about 30 minutes.
Extraction

Many root-treated teeth present some kind of inflammation of surrounding tissue, effectively diagnosable by a DVT scan (three-dimensional X-ray picture). The cyst at the root apex is nothing but a kind of capsule formed by the immune system around the infected area to protect the body from this area. Highly toxic teeth ankylose frequently with the surrounding bone. Local metabolism comes to a stop—similar to a prison, the body immures the tooth. The only possibility to escape this chronic intoxication is the surgical removal of these dead teeth, as well as of inflamed or cystic tissue. Residue-free curettage of soft bone is mandatory. Next step is the ozone disinfection of remaining tissues.

According to Brisman et al., the placement of implants next to still existing root-treated teeth has to be evaluated thoroughly to avoid a possible failure by focal infection.

Perfect aesthetic and immunological solution: ceramic implants made from zirconia (zirconium dioxide)

Zirconia is an electrically neutral ceramic, highly biocompatible and without any interference field characteristics. In contrast to greyish titanium it is metal-free and highly aesthetic by its white color.

Zirconia implants combine best biocompatibility with perfect aesthetics.

Recently zirconia implants are also available as two-piece screw retained implants for all indications.

Experience has shown that immediate implantation with one-piece zirconia implants is the best treatment solution for single-root teeth.

Therapy

Extraction

Meridian System for Self-Assessment


11. R. S. Brown, et. al., The anesthetic localization procedure is an aid in ruling out or confirming suspected primary sources of oral or dental pain, JADA May 1995; Vol. 126


