

Effect on Regulation, Meridian-, Lymph und Immune Systems

Complementary Dentistry Implantology Titanium - zircon dioxide

Implants are artificial tooth roots used to secure in place fixed and/or removable dentures. In 2007 dentists and dental surgeons in German speaking countries inserted more than 600.000 implants. There are over 100 mostly titanium based implant systems currently being used. How can the use of these implants be evaluated?

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In 1969 the Swede Branemark coined the term “osseointegration” in relation to titanium implants. In 1984 he understood this as the direct contact between the living bone and the surface of the implant. According Branemark, titanium is the material that best “osseointegrates” [20].

Central to Branemark’s and “state of the art“ implantology is a surgical, prosthetic and chewing-functional mindset. Possible influences of titanium on lymph and immune systems, regulation and meridian physiology are not considered. Material-specific preventative-salutogenetic approaches are not a part of mainstream implantology. However, individual zircon dioxide based ceramic implants are also successfully used as replacements for single teeth [9, 12, 18, 19, 22, 24, 29, 48] and have been the subject of scientific studies [1, 2, 21, 31, 35, 39].

In an initial operation, the screw is inserted into the jawbone, then after a healing period of three to six months a mounting is screwed on, and finally the denture is fixed in place. The shorter the healing period the higher is the risk of postoperative complications.

In order to avoid the loss of the single-piece zircon dioxide implant, it has to be protected from strain during the healing period [44]. They cannot yet replace the indication spectrum of two-piece titanium implants, particularly in combination implant prosthodontics.

Zircon dioxide

Zircon dioxide implants consist of tetragonal zircon dioxide that has been partially stabilized by yttrium oxide. The material used has a granularity of 0,2 µm and is cold

isostatic pressed from a powder with the help of a bonding agent. In order to reduce the porosity caused by the sintering, it is subjected to an isostatic high pressure treatment known as HIP (Hot Isostatic Pressing) to increase its density and resistance. It is structurally stable up to temperatures of 2000°C [41]. The percentage of yttrium dioxide (Y_2O_3) is 5.2%, and of aluminium oxide (Al_2O_3) 0.25%.

Biological in vitro and in vivo tests, for instance on aging scenarios and surface conditions, [32, 45] show that the material is completely biocompatible [16,17] and suitable for long-term applications. Studies on hydrothermal influences have shown a reduction in the tensile strength of the implant material from up to 20%, starting with an average tensile strength of 1500 MPa of the initial material [8]. The maximum chew load is 200 MPa.

Compared with the current ISO Norm 6872 for dentistry, the requirements of zircon dioxide used in implantology are significantly higher. For example, according to the current ISO Norm 13356 for zircon dioxide implants, the maximal radioactivity concentration of 0,2 Bq/g is at least five times lower than that for dental ceramics [43]. The histology of ape, rabbit and pig jaws suggest osseointegration also for human bones [1, 7, 28, 39].

Parameter of Zircon dioxide implants

- High flexural strength
- Break strength
- Hardness
- No heat and electrical conductivity
- High resistance: galvanic inert, immune-neutral und non-reactive in the Lymphocyte Transformations Test (LLT)

(Information for patients:

www.forum-nat-zahngesundheit.de/wordpress/category/allgemein/).

The advantages of zircon dioxide implants

After the zircon dioxide implant wound has successfully healed, surgical exposing, gingiva moulding, shaping with posts and transference with the laboratory analog are unnecessary and thus a technical work step is dispensed with. As a result, dental-prosthetic risks that can lead to a later failure can be significantly reduced.

With regard to the long-term result, a crucial advantage of zircon dioxide implants is that they are single-pieces, as the lifetime occurrence of loosening and breakages of the screw connection in two-piece titanium implants is 20% [14, 33, 34].

In addition, the micro-gap in the screw connection gives rise to the risk of infection on the osseo-gingival interface [42]. This permanent source of infection can in the sense of Traditional Chinese Medicine weaken the immune system and thus also the meridian pair lung-large intestine by way of tooth-odonton meridian connections [3, 13, 38]. Due to the dispersion of metal ions into the surrounding bones, damage can also occur to the meridian pair kidneys-bladder and a relevant third meridian pair dependent on the location of the implant.

Titanium

Dependent on the level of saliva acidity, dental alloys can lead to galvanic phenomena within the mouth, whereby the corroding alloys produce negative potential differences. The dispersion of ions resulting from these potential differences cause neuronal and interstitial strains, allergic reactions and incompatibilities, which in turn can correspond to homeopathic drug pictures of the alloy components.

Every potential difference between different alloys causes an electric field whose effect is unpredictable. The central nervous system is permanently exposed to this field and this can lead to ill feeling in terms of headaches, sleep disorders and concentration problems [6, 45].

Due to the position of titanium in the electrochemical series, this metal disperses into the solution and can be found not only in the surrounding tissue but also in distant organs, such as the spleen, the lung parenchyma and the lymph nodes [36, 37]. In addition, the impact on the electromagnetic field has also been discussed (diffusion, modulation, sender/receiver/antenna effects, reinforcement, effect on cerebral impulses, meridian pathology).

Complementary pathology

If an implant is set in a chronically degenerative-inflamed section of bone, there can follow consequences similar to those resulting from the contamination from an endodontically (root canal treated), bacterially infected or root point treated tooth [27]: The implant can have an affect the regulatory ability of the whole organism through the osseous, lymphatic, immune, vascular, endocrine, vegetative nerve and meridian

systems [4,5]. The end formations that end in the interstitial space can become accumulation centres for toxic substances including even titanium and thus influence the emotional centres of the brain (limbic system and amygdala) by means of afferent nerves.

On the one hand intercerebral communication with higher centres of the cortex can be distorted by somatopsychic strains, whilst on other the endocrine system can be deregulated via the epiphyseal system. It thus concerns a primarily somatopsychic causality that is classified in clinical practise by psychiatry, neurology or endocrinology as psychosomatic. Given a patient's vulnerability for a mental disorder it is difficult to make a final diagnostic decision as to which part is somatic and/or which is psychological [5, 40].

Spranger defined three states of illness with homologous and/or heterologous etymology. The "first-order illnesses" are homologous with known etymology, the "second-order" have either unknown etymology or are homologous, and the "third-order" comprise pathologies that have a multiple amalgam between homology and heterology. Every mixture has a pattern of homologous and heterologous parts [41]. It is difficult to estimate diagnostically just to what extent dispersed titanium triggers heterologous illness. Lechner suggested possible titanium pathology in connection with cytokines that modulate the immune response [25, 26, 30]. Energetic-informal influences of titanium on the human constitution and universal effects are described by Guggenbichler [15].

Prevention: Not using titanium

Not using titanium can have an effect on primary, secondary and tertiary prevention of illness. Primary prevention is the attempt to avoid illness by the targeted avoidance of risk factors. Secondary prevention concerns both collective and individual measures for risk diagnostic, early treatment and reduction in the prevalence of illnesses. It includes the possibility for the early ascertainment of defined health disorders, follow-ups, the selective control of beginning but reversible illnesses, the appraisal of environment-dependent illnesses, slowing the progress of illnesses and the alleviation of ailments. Tertiary prevention includes treatments measures for functional substitution, avoidance of complications and rehabilitation [47].

Diagnostic, combination infiltration and therapy

In addition to manual (applied kinesiology, physioenergetic, O-Ring after Omura) and apparative regulatory diagnostic (using morphogenetic fields, scalar waves, computer thermography, etc.) and meridian diagnostic (e.g., using electroacupuncture, i-Health, AMS, Prognos, Oberon, Metascan, Vega, Vita Scanning), neural therapeutic infiltration on the implant odonton, which is seen as the cause of irritation, discomfort or manifest illness, has established itself in recent decades in complementary dental medicine.

Classical neural therapy using procaine can halt the pathologic sympathicotone reactions resulting from a titanium contamination and improve local perfusion [10, 46]. More effective and from my clinical experience also more in line with the patient's wishes is combination infiltration on the relevant odonton with a pH regulating potency accord (Sanuvis), lymphatic stimulation (Lymphomyosot, Lymphaden, Lymphdiaral) and the isopathic „antibiose“ Notakehl. In addition to the diagnostic effect, there is also an increased therapeutic one. The patient experiences relief, can consciously feel how the pain lines run, receives the possibility of an intervention without any side effects (also after previous repeated antibiose) and he or she gains time to cope with his or her fear and clarity regarding further procedures [5].

Everyday clinical experience reveals that due to the extreme increase in titanium implants there has been an increase in the previously very low incidence of titanium incompatibility in patients, as shown in the LTT test and in environmental health, regulatory and meridian diagnostic. In these cases the decision-making process is very complex and very occasionally as a last resort explantation must be considered.

Casuistic

In the last 12 months, my dental practice with its integrative-holistic focus has been visited by a number of patients with unpleasant sensations, ill feeling and chronic illnesses that could be related temporally to the insertion of titanium implants.

One patient with a chronically high temperature in the region of his head (38–38,5 °C), which began with the insertion of a titanium implant in the front teeth area, attained more or less complete symptom relief within 24 hours of a combination infiltration treatment as described above. The reaction to titanium in the LTT was positive. After an initial increase in the temperature following explantation, it was within the normal range within three days. The environmental health analyse of a bone sample showed a titanium concentration of 145.000 µg/kg (Analysis: Medical Laboratory Bremen,

Germany), whereby the recommended maximum concentration is 1000 µg/kg. Furthermore, accumulations below the maximum concentration can also be toxic.

Finally, a case study of a 40-year-old patient with two teeth in her lower jaw that blocked the regulatory function (Figs. 1–5): The postoperative complementary medication was given with aforementioned combination infiltration on the corresponding mouth acupuncture points – the the isopathic “antibiose” in alternation with the isopathic “microcirculation stimulating” Mucokehl.– and a plant-based antibiose with nasturtium herb and horseradish root extracts. In the case of an adverse healing process, it is necessary to apply a classical antibiose in combination with a dysbiose prophylaxis.

Summary

With today’s knowledge dental care with titanium implant has to be seen critically. As long as the individual patient’s immune system can compensate for the matrix contamination by dispersed titanium, then people with titanium implants have no need to be concerned. However, if there is any indication of a possible contamination then laboratory diagnostic should be carried out.

The conventional benchmark for successful implant systems is the durability of the implant as evaluated in 5-year studies. However, is the durability of the implant the only criterion for evaluating implant systems? Within community medicine, in which large populations are screened for risks and the progress of illnesses, other questions can be asked: Are there patient groups with titanium implants and/or metal dentures with a higher incidence of, for example, fibromyalgia, multiple sclerosis, amyotrophic lateral sclerosis, Parkinson’s disease, Alzheimer’s disease and other types of dementia compared to other patient groups with natural healthy teeth and metal-free fillings and dentures [6]?

If patients are about to decide on implants then they should be provided with information on the risks in order to make a considered choice. Zircon implants themselves need not represent the end of the process as an over decades tried and tested conventional combined-removable denture using “proven” materials is always an alternative to complex implants – particularly for dentures in lateral upper jaw areas (sinus maxillaries, augmentation of bones).

Every treatment in dentistry is a compromise. At the end of an individual integrative treatment decision a holistic-systemic diagnostic of the individual must be made.

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Fig. 1: Initial situation 36–38



Fig. 2: Measurement-OPG

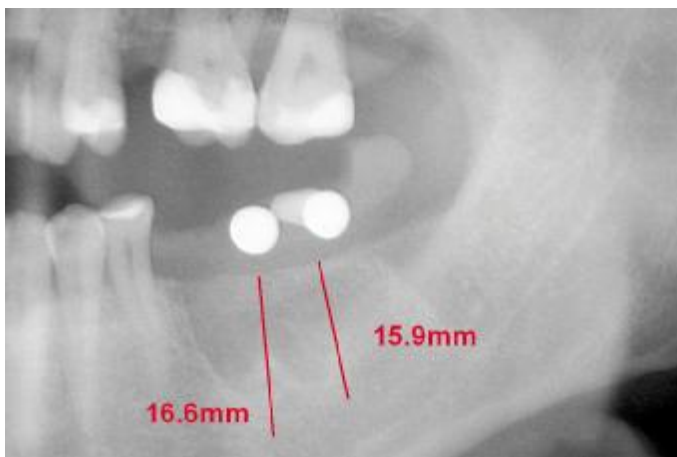


Fig. 3: Control after insertion 36, 37

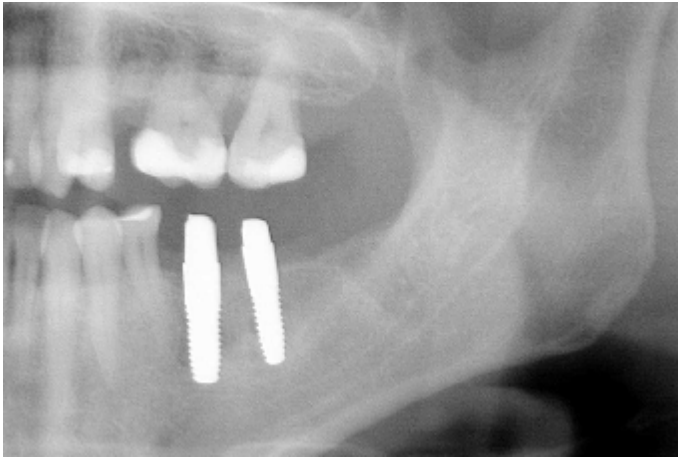


Fig. 4: Prepared abutments



Fig. 5: 36, 37 Cemented zircon oxide crowns



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