



Natural Teeth, Dental Implants and then, what is the Next when these Treatments Fail

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The biological and functional benefits of advances in the implantology area for modern dentistry are undeniable [1]. Dental implants to replace condemned natural teeth, in small edentulous areas or to fully rehabilitate edentulous ones, are currently the best option for prosthetic surgical dental treatment, restoring the patient's health and function. The placement of implants prevents the progressive bone resorption that occurs naturally in the permanent absence of dental elements, and this is a great finding with clinical importance, regarding orofacial functional and aesthetic changes that occur after successive tooth loss.

The implantology has advanced greatly in recent years, especially after the known advent of Prof. Dr. Brånemark, a traumatologist and Swedish scientist, when studying intraosseous blood circulation "in vivo" in rabbits through titanium camera, observed and interpreted osseointegration phenomenon that would change the history of dentistry. Even that, we know, the patient assessment, laboratory tests, analysis of general biological conditions, physical and psychological state, and thus financial condition may contraindicate implant surgery and, we will have to resort to other kinds of dental prostheses. Fixed partial dentures over natural teeth, removable partial dentures, and conventional total dentures are prosthetic alternatives available and excellent treatments options when correctly indicated and if well executed [2-4].

Implant and bone integrated, and this unit does not hold periodontal ligament space. In addition to its protective function, periodontal ligament provides proprioception. When referring to implants installed in spaces between teeth, the lack of periodontal ligament does not allow the implanted elements to intrude into the alveolus at the same depth and the same time as the adjacent natural teeth. If this is not controlled/observed, it can lead to possible trauma to the antagonistic dental elements, weakening of the prosthetic components, occlusion problems and even orofacial

pathologies. The same in edentulous maxilla or mandible fully implants rehabilitated, the chewing strengths loses control, also this lack of fine sensitivity will lead the patient hurting himself by biting tongues, cheeks and may causes prostheses fracture or prosthetic component's failure, antagonist teeth fragility and even the loss of installed implants. Even considering that the implants provide what is called Osseo perception, which seems to not be enough to replacement of periodontal ligament structures [5].

I propose that you think about the following hypothetical clinical situation: female patient, 50 years old, the maxilla has all-natural and healthy teeth, from 18 to 28 and in the mandible, the presence of dental elements from 33 to 43, those with restorative and endodontic needed. In the same mandibular arch, absence of premolars and molars on both sides. The patient's complaint is the lack of these lower posterior elements, reporting that she does not chew food correctly and wants to solve this functional and oral health issue. At the end of the clinical examination, analysis of complementary exams, and in view of the exposure of the various prosthetic planning options available, the patient chooses to install implants and partial fixed prostheses at the molar and premolar region, and treatment of teeth - 33-43, as needed, keeping natural teeth in the mouth. Do you agree with this clinical approach and prosthetic-surgical planning in the resolution of this case? What we are seeing in current dental practice in these cases, including internationally, is the indication of extraction of elements 33 to 43, installation of at least 4 implants in the mandible, and a total fixed prosthesis over these implants.

What I often hear, and have read in the scientific literature, is that the motivations for the extraction of these lower elements and implants installation of in the region, associated with a screwed complete fixed prosthesis, have the lowest cost among treatment options, and is the faster and quicker way to solve, with quality, this

type of case. That is not wrong [6]. Even we knew that the posterior region of the mandible has anatomical accidents of great importance, and usually presents itself reabsorbed in the vertical direction after a few years in the absence of natural teeth. I do not disagree with such a position, but I cannot ratify it. We know, in advance, that factors such as financial cost and treatment time are extremely important and are some patients concerns when looking for a dentist. Even knowing that the desire for fast, low-grade, and low cost but with good quality treatment does not exist. How do you could get everything at the same time! How to get to a consensus, regarding the choice of the best type of treatment, respecting some demands of the patient, obtaining the greatest longevity clinical of this treatment? [7,8].

There are several forms of oral rehabilitation using implants that can be applied in this case [9]. These options must be made in agreement with the patient, so that together, both dentist and patient, could make the most appropriate decision, leading the patient to take an active part in their treatment [10]. The patient cannot command the dental treatment, neither the dental surgeon could decide the type of treatment by himself, remembering that the pros and cons of each option must be established, so that the patient will be aware, and takes responsibility for the chosen treatment that he/she will be paying for.

When we talk about longevity, comparing prosthetic treatments over implants or over teeth we know that, through scientific studies and clinical practice, any type of prosthesis material like acrylic, metal-ceramic, all-ceramic, or zirconia has an “expiration date”, I mean, someday the failure will occur. Cracks, fractures, occlusal misfits, trauma, accidents, or concomitant pathologies, among other things, could lead to prosthesis loss, dental implant loss, either zirconia or titanium ones, implants of suitable length or shorter, and even a natural dental element [11]. So, prostheses over teeth as well implant’s prostheses have a half-life of approximately 10 years, regarding the planning and executing by a professional dentist, and maintaining and conservation, of the dentist works, by the patient. Frequent clinical adjustments, every 6 months or once a year, periodic consult for occlusal adjustments, polishing, and repairs, replacement of screws or components, imaging examinations for tissue control bone/implant or to check the root/pulpal conditions of a tooth that has received a fixed prosthesis, in addition to everything else we know or have learned today as well as the changes in nutritional pattern, will also define how long a

prosthetic treatment will last while it is being functional, biological, aesthetic and respecting patient's requirements [12].

Implants have been considered as perfect replacements for natural teeth, and some dental professionals opt for complex extractions and replacement/installation of implants to solve that clinical case, saying to patients that implants are a lifetime treatment. Ethically, this cannot be affirmed, and even till now, it is not described by any professional in the scientific reliable literature. I do not intend to talk here about factors that lead to implant loss. I do want to bring to this discussion, that dental implants are not an identical replica of a natural dental element, its biological, biomechanical, and functional behavior still needs more research and new biotechnological projects [13]. Even if the patient has signed in the medical record the agreement of what was said, this attitude is subject to an ethical/professional process. We, dental surgeons, need and deserve to receive from our works the amounts financially, in money, which were invested during all the previous years studying and professional dedication, but this is not achieved at “any cost”.

This editorial was written to think about our professional performance, questioning what will be the next dental treatment we will offer to our patient (about 10 years from now) after the failure of the treatment currently performed. The intent is not to convince or impose my view to you, dear reader of SAODS, but rather open our minds in relation to practice dental clinic with ethics and offering the best treatment to the patient. And I confess, I hope to motivate dental professionals to read more scientific papers, keeping themselves up to date and seriously basing their knowledge and practice. I really hope, to everyone who read these, a lot of studies, much more patients and money too! I am at your disposal for any clarifications.

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