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ABSTRACT

IMMEDIATELY IMPLANTATION AFTER EXTRACTION WITH OR WITHOUT BONE AUGMENTATION

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1. GENERAL DATA

In order to reach the high level of performance legitimately claimed nowadays, implantology has had to overcome the obstacles of initial discouragement. The evolution of scientific thinking and practical tests brought new elements that over time have become standards.

Ever since ancient times, people have been concerned with replacing lost teeth, a fact which is attested by numerous archaeological finds.

The first implantation attempts were performed during the dynasties of ancient Egypt and pre-Columbian culture. Traces of this period have been found in Africa, Latin and Central America and the Middle East. The materials used were animal teeth or teeth carved in ivory. The radiological examinations of exhumed skulls reveal a good osseointegration of the artificial carved ivory root (the pre-Columbian culture). In the Egyptian culture the edentation of the deceased was treated before mummification.

In the medieval period, implantology was limited to transplants; the materials used were human teeth. Transplantation was performed from one patient to another, teeth being collected from individuals belonging to disadvantaged social classes.

During the Renaissance, in 1545, R. W. Hermann made one of the first observations on implant methods and techniques. In 1560, A. Pare described transplantation and reimplantation in one of his treaties. In 1615, L. Guyon claimed that the tooth must be immediately relocated into the alveola and tied with a thread to the neighboring tooth. In 1633, Dupont (King Louis XIII’s dentist) published the paper "The Dental Graft" where he recommended extraction and reimplantation within the treatment of odontalgia.

Endosseous implantology began between 1800-1900. The materials used were gold, porcelain, platinum, silver and wood. In 1807, in his book "The Dentist’s Art", Magglio described the implantation of a tooth with gold alloy. Around this time, a series of works on re-implantation and transplantation were also published. The principles of biocompatibility and

primary stability were developed by Berry in 1888. He stressed the need for immediate implant stability and the use of "safe" materials in order to prevent the transmission of infections. Around 1900, according to the trend of the time, it was fashionable to implant teeth with precious material roots. In 1913, Greenfield suggested implementing the implant after 6-8 weeks, noting the importance of an intimate bone-implant contact.

The study of the various biomaterials and the surgical and prosthetic innovations has enabled genuine success in implantology. Studies at Harvard Medical School have enabled screwed unitary implants unit made of bio-compatible materials, such as vitalium.

Juxta-bone implantology met with great success until the emergence of the first endosseous implants. The first endobone implants had standard forms, adapted to the particular bone situation encountered.

In 1951, LEW was the first to perform direct bone print, in order to ensure a smoother adaptation of the subperiosteal implant to the implanted site.

JAMES was the first to use a scanner for a three-dimensional view of the construction, thus avoiding the surgical stage of printing in direct contact with the bone. In 1975, JUILLET put in place the three-dimensional implant requiring lateral implantation.

The implantology of the 1950s-1970s was an all-trial-and-error period. During this time obtaining a fibrous peri-implant interface was entirely desirable.

The aim was to mimic the alveoli-dental ligament in order to cushion the shock at the level of the interface. Thus, the stiffen bone-implant contact was regarded as a disability within the prognosis of the implant.

Branemark and his team developed the biological principle of implant osseointegration that resides in obtaining a direct opposition to the internal bone-implant (while before that, fibrointegration was preferred) and putting the implant to work 3-6 months after its placement.

Clinical studies then showed that the immediate putting to work of the implant leads to a high percentage of osseointegration.

In this regard, research has targeted both implantation techniques and materials used. Thus, based on simple criteria, implant materials must have the following characteristics: they should be non-toxic, not antigenic, non-carcinogenic, durable, and easy to use.

The materials that are most likely to be implanted are divided into two categories:

a. biological implants: the roots of freshly extracted teeth, bone, cartilage, collagen, freeze-dried.

b. non-biological implants: metals, polymers, ceramics

The ideal material to be used must have the following characteristics:

- withstand the attack of physiological liquids

- be sufficiently strong against the pressure which it is subject to

- be non-toxic

- not alter the composition of electrolytic plasma and tissues

- not be allergenic

- not interfere with the body's defense mechanisms

Concerning biological implants, over time have been used the roots of freshly extracted teeth, selected according to the desired length in order to be reimplanted back into their socket followed their suture. This method however proved to be unsatisfactory, as there was root and alveolar resorption.

Bone material from various other sources was also used as material (autograft) for the augmenting the height of the alveolar process, replacing a localized bone loss, or aesthetic or functional correction. Limiting the quantity of the material, the surgical difficulties during sampling and the fragility of the graft makes the autograft a difficult material to use.

Metal implants have, among other qualities, the convenience of manufacturing facility and the possibility of obtaining unlimited quantities.

Numerous metals and alloys were tested, but most of them do not withstand the corrosion of organic fluids, causing inflammation of bone tissue, and yield to the efforts that they were subject to. The polymers were used in the treatment of atrophied maxillary ridges. Ceramics was used in implantology as well, but its fragility, its weak flexibility coefficient makes it a difficult material to handle. Titanium has proven to be an excellent material for implantation because of its great corrosion resistance and its quality of being the material best tolerated in the biological environment.

1. THE SPECIAL SECTION – AN OVERVIEW

The present paper is an attempt to work out a series of problems related to the immediate post-extraction implantation.

In this regard, I have studied this subject at the Implantology Clinic of the Central Military Hospital in Bucharest, where I worked as a dentist, as well as in dental practices in France and Austria (Dr. Bross's Dental Practice).

The study lasted approximately ten years and included a total of 282 cases.

	Period	Character of study	Number of cases
Central Military Hospital	01.01.2000 31.12.2005	Retrospective study	138
Dental Practice in France	01.01.2006	Prospective study	55

	31.12.2008		
Dental Practice Prof. Dr. Bross	01.05.2009 31.12.2009	Prospective study	89

Table 1. Distribution of cases according to performed study.

The retrospective study was conducted by analyzing data from patient records and surgery protocols.

The prospective study resided in the direct tracking of patients in all stages of treatment: preimplantation, implantation and post-implantation.

I have illustrated the distribution of the 282 cases in Table 2 and Chart 1.

Table 2.

Year	Number of patients
2000	16
2001	18
2002	23
2003	24
2004	21
2005	23
2006	20
2007	21
2008	27
2009	89

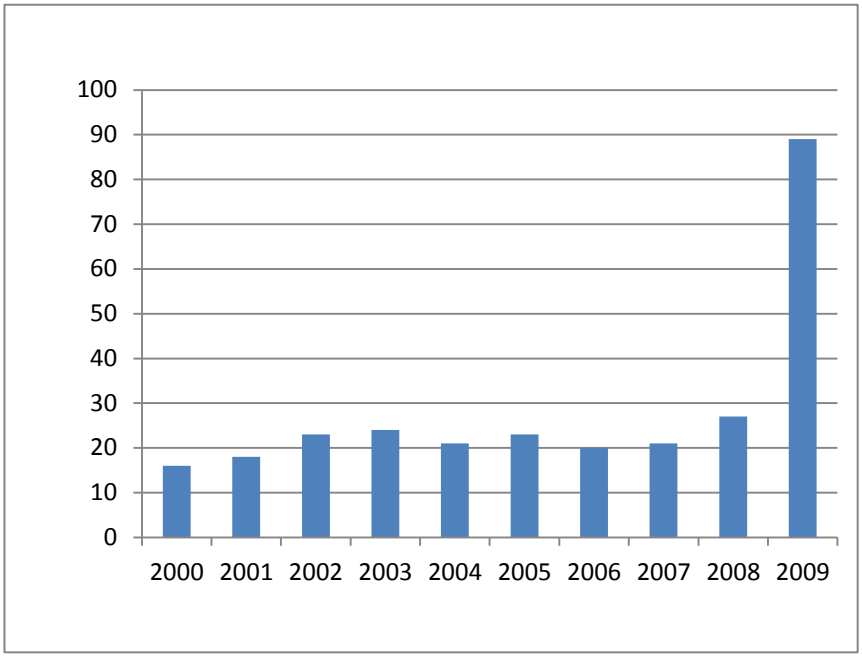


Chart 1. Distribution of cases per years.

As shown in the chart, the number of cases was relatively constant in the first years of study with a significant increase in 2009. This is explained by the fact that the method of extraction with immediate implant was little used in the early years of the study because the principle of osseointegration was designed in a different way.

According to the sex of patients, the cases were presented as follows: 155 female cases and 127 male cases, their ages ranging between 25 and 60 years.

AGE	**MALE**	**FEMALE**	**%**
25-30 years	15	40	10,9%
31-40 years	58	60	41,1%
41-50 years	46	38	39,1%
51-60 years	8	17	8.9%
TOTAL	**127**	**155**	**100%**

Table 3. Distribution of cases according to sex and age groups

The table shows that most patients were aged between 31 and 50 years. Moreover, there also emerge a higher proportion of female patients, which is explained by pregnancy and osteoporosis, rather than the importance that females give to aesthetics.

Percentage-wise, female patients represent 53.8% and male patients represent 46.2%.

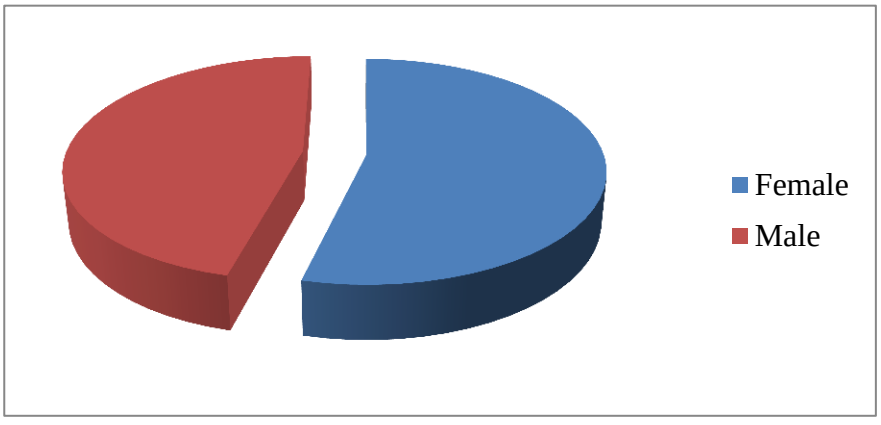


Chart 2. Percentage distribution of cases according to patients' sex, highlighting a higher percent of female patients

The cases studied had different extraction locations, as follows: 186 cases had immediate extraction with implantation in the maxillary, and 96 in the mandible.

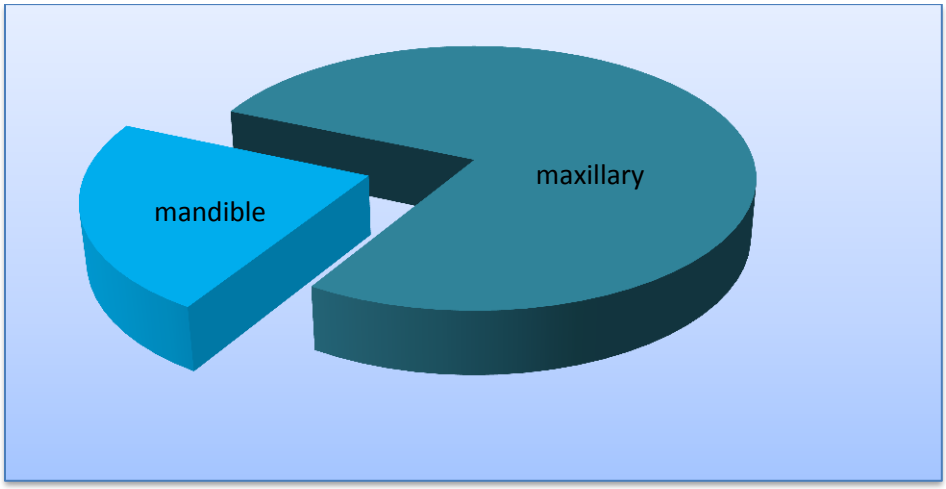


Chart 3. Distribution of cases according to bone localization

Of the 186 cases, 158 underwent extraction with implantation in the immediate front of the jaw, and the rest 28 in the rear part. Of the 96 cases in the lower jaw, 81 underwent immediate extraction implant in the immediate front, and 15 in the rear part.

We should note an increased number of inserted implants in the front part, both of the maxillary and of the mandible, as this area is more important aesthetically. This is why the demand for anterior implant insertions was higher.

Of the 186 jaw cases, 96 underwent bone augmentation, and of the 96 lower jaw cases, 47 underwent bone augmentation. In these cases we used resorption membrane.

Localization	**Total no. of cases**	**With bone augmentation**	**Without bone augmentation**
Maxillary	186	96	90
Mandible	96	47	49
Total	**282**	**143**	**139**

Table 4. Bone augmentation according to topography.

The bone grafts used were allografts (TBF) and xenografts (Bio-Oss). Where membranes were used, they facilitated the surgical technique. They played the role of a barrier to facilitate bone regeneration. I preferred resorbing membranes in order to avoid the 2nd operating time.

The WITAL, TBR, NOBEL implants inserted had diameters of 3.25 mm, 3.5 mm, 3.75 mm, 4.1 mm, 4.3 mm and 5 mm, their length ranging from 9 to 13 mm.

Given the importance of clinical and laboratory examination on patients, prior to surgery were performed clinical examinations, laboratory and radiological tests, and in patients with a pathological history (heart disease, diabetes mellitus, hepatitis) additional examinations and expert advice were also requested.

Alongside these tests, patients completed a questionnaire in connection with their current state of health and personal medical history.

After analyzing the data obtained, we divided patients into three groups:

- Group I - without risk

- Group II - moderate risk

- Group III - high risk (chart)

Diagram showing the three risk groups: Group I = 227, Group II = 50 and Group III = 5

We could note that high-risk patients were in a small number (5). They were referred to specialist services for preoperative treatment accordingly. The number of the inserted implants in a patient ranged between 1 and 4.

Depending on the age of patients and number of implants, the situation was as follows:

No. of implants %	**25-30 years**	**31-40 years**	**41-50 years**	**51-60 years**	**Total**
1 – 20,2%	26	18	8	4	57
2 – 20,2%	15	21	16	5	57
3 – 23,4%	12	18	22	24	76
4 – 36,2%	13	21	33	25	92

Total 100%	**66**	**79**	**79**	**58**	**282**

Table 5. Number of implants according to age.

The parameters that were taken into account within the prospective and retrospective studies were:

• periodontal or systemic diseases

• causes of tooth extraction

• vicious habits (smoking, alcohol, nail biting)

• parafunctions (bruxism)

• implant placement with or without bone augmentation

• the degree of alveola resorption

• type of prosthesis

I considered that all of these parameters could influence the final results.

The final results were also influenced by the surgical techniques used. In order to minimize the number of failures, we tried to use less invasive techniques to preserve alveolar bone to the maximum, which is one of the essential conditions in post-extraction implant surgery.

For this reason we used the piezo-surgery tooth extraction device that allowed the solving of situations where I observed a vestibular bone resorption as well as the placement of an implant immediately after extraction.

Given the importance of clinical and laboratory examinations before surgery, laboratory tests (CBC, TS, TC, blood glucose, liver samples) and radiological examinations were performed. During the first consult, patients received a questionnaire on the current state of their health. In patients with personal pathological history, the opinion of the specialist physician was requested.

Patients with poor oral hygiene underwent tests to determine plaque index, as it is well-known that an increased bacterial load can compromise the outcome.

Within the study, special attention was paid to radiological examinations that allowed the assessment of bone height and volume available, of anatomical obstacles (sinus, inferior dental nerve) and of possible bone pathology (included teeth, cysts).

Orthopantomography was performed in all 282 patients, because this type of radiography gives the complete image of the two jaws and guide upon the implant diagnosis.

In cases where it was considered that the orthopantomography offers insufficient data regarding the height of the available bone, CT was used. Through its highly accurate viewing, the latter allowed images of bone volume, Cortil thickness and trabeculata density.

Retro-alveolar radiography was not used consistently. It was conducted to provide data on endodontic treatments, on the possible root fractures and periapical or periodontal pathology. It was often used in the regular post-implantation tests.

Depending on the causes that had led to tooth extraction, we used antibiotics (Amoxicillin, Augmentin and Zinat), accompanied by an anti-inflammatory treatment (Ketonal, Nifluril). In cases of extraction without infectious process, antibiotics were administered 2 hours prior to extraction and continued for 3 days. In case of extraction with infectious process, antibiotics were initiated 2 days before extraction and continued for 5 days after extraction.

For the 138 patients within the retrospective study, surgery and post-surgery were assessed in surgical protocols.

In the 144 patients within the prospective study I participated directly to the design of the treatment plan, surgical interventions and regular examinations conducted.

I observed both the positive outcomes and the short and long-term complications and failures occurring.

We paid special attention to performing atraumatic extractions in order to preserve the alveola and especially the vestibular bone plate. At the same time, we have also attempted to

obtain a better primary stability, a prerequisite for the immediate load release on implants. Implementing a provisional prosthesis brought physical and aesthetical comfort to the patient.

2. CLINICAL CASE STUDY

The aim of this study is to demonstrate the advantages of this method compared to the classical method.

Objectives:

- Highlighting the advantages of immediate implantation

- Comparative presentation of the classical technique and immediate implantation technique

Developing a treatment plan in case of the loss of one or more teeth involves the solution of immediate implantation. The aim is to reduce the number of interventions, to prevent usual bone resorption which can lead to a flat or negative architecture of the edentulous ridge.

The outcomes of treatment with implant prosthetic reside in functional integrity, aesthetics, position of marginal gum in harmony with the adjacent teeth.

With the help of the cases reported, we have tried to answer the following questions:

- Are monoradicular teeth the only one in view of immediate implants?

- Should immediate load release follow immediate implantation?

- Can immediate release of the aesthetic function compromise the aesthetic integrity of the final prosthesis?

- Is the presence of apical lesions in contradiction with immediate implantation?

Tooth extraction has as an inexorable consequence a certain degree of bone resorption. The literature shows that post-extraction bone resorption mainly affects vestibular bone cortical due to the resorption of the fascicular bone, as noted in the first months after extraction.

By extraction with immediate implant with or without Immediate load, we have observed the following objectives:

- Preservation of initial bone volume

- Preservation of adjacent soft tissue

- Non-invasive surgery

- Minimal disturbance of vascularization

- Rapid and immediate playback functions

- Aesthetic win

The parameters that we considered in the clinical study were:

1) residual bone quality. The primary stability of the implant during its implementation is the *sine qua non* condition of success. Therefore, proper bone density D1, D2, D3, according to Misch's classification, is required.

For this reason, patients with bone density D1, D2, D3 were chosen for the study, excluding patients with poor bone density.

2) time. Immediate post-extraction implantation allows the avoidance of 3-6 months bone healing period, needed in the case of tardy implantation.

3) aesthetics. Immediate implantation enables favorable aesthetics by loading the immediate prosthetics, actually achieved in all patients where we obtained a good primary stability of the implant.

Patient selection was made based on:

- Causes of tooth extraction. The study included patients undergoing dental extractions due to advanced decay, in case of failure of endodontic treatment, or dental fractures.
  The study excluded patients with severe periodontal disease, normally preceded by considerable bone loss, tooth extractions associated with a major infectious outbreak or in the case of anatomical barriers present (dental canal, sinus).

- the general condition of the patient. The exclusion criteria were linked with increased risk of cardiovascular disease (valve prostheses, congenital cardiopathy), advanced degree of osteoporosis, undergoing chemotherapy and prolonged corticosteroid therapy. At the same time, we also excluded female patients with osteoporosis undergoing a biphosphonate therapy for at least three years, due to the risk of jaw necrosis.
- risk factors. Tobacco was considered as a factor for implant failure. We excluded from the study heavy smokers with an increased risk of scarring and bone metabolism alterations. Failure was related to many factors, such as systemic vasoconstriction, reducing blood flow, increased platelet aggregation.

  Alcoholism can lead to scarring alteration and may be the origin of osteopenia. The alcoholic intoxication level was measured before the therapeutic decision.

The surgical phase was crucial and the success of implantation was closely linked to the technique that we used for extraction. We tried to lessen trauma upon the residual bony wall and preserve the alveola intact.

Choosing the implant, its geometry and connection type affect the stability of peri-implant tissue.

Placing the implant was the result of an analysis of the bone walls, the alveola orientation and the morphology of the alveola of the extracted tooth. The axis for implant insertion has not always followed the alveola axis, this being done according to the vestibular bone plate quality and aesthetic requirements.

Immediate implantology, as it was described in the clinical study that I have conducted imposes a good choice of sizes of implants as well as of prosthetic components, if releasing the load is scheduled within the same therapeutic session.

3. TYPES OF IMPLANTS AND MATERIALS USED WITHIN THE STUDY

Within this study, we used implants from the Camlog, Wital, Nobel and TBR brands.

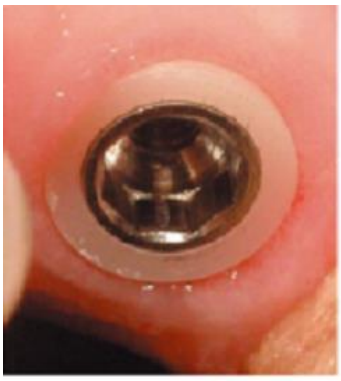
CAMLOG implants are made of pure grade 4 titanium, and the abutments and screws are made of titanium alloy Ti6Al4V. The core of the system is a "tube in tube" that establishes an accurate implant-pillar connection which is safe from the mechanical standpoint. This ensures a good anti-rotational stability.

From the brand we used the Screw-Line range and the Root-Line range (diameter 3.8, 4.3, 5 and length 9mm, 11mm and 13mm). Screw Line implants are screw shaped. The self tapping of the implant is achieved thanks to its slightly conical shape.

Root Line implants are self tapping and they have a root shape. Thanks to their tapered shape and special fillet, they provide good stability and perfect adaptation. They are especially suited for immediate implantation ensuring safe loading of the periimplantation area.

TBR implants with the zirconium-titanium technology bring improvement to the parointegration concept.

TBR implants with a zirconium cervical enable satisfactory aesthetics in case of fine gums. The specific properties of zirconium systematically induce a coronal repositioning of the gingival ridge.



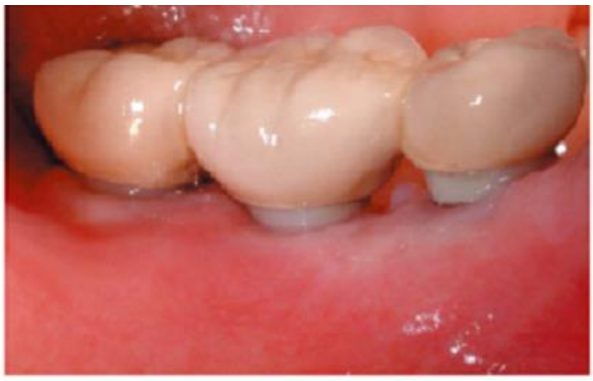


Figure 1. The emergence diameter of the zirconium-titanium al implant is compatible with cervical diameter of the natural tooth.

Figure 2. The coronary repositioning of the gingival ridge around the zirconium cervical.

The titanium- gum relationship is a specific non-physiological relationship, as it is the result of a surgical act that puts into play an exogenous material. Regarding the zirconium, this interface shows many histophysiological similarities with gingival epithelium. There has been recorded a coronal repositioning of the gingival ridge.

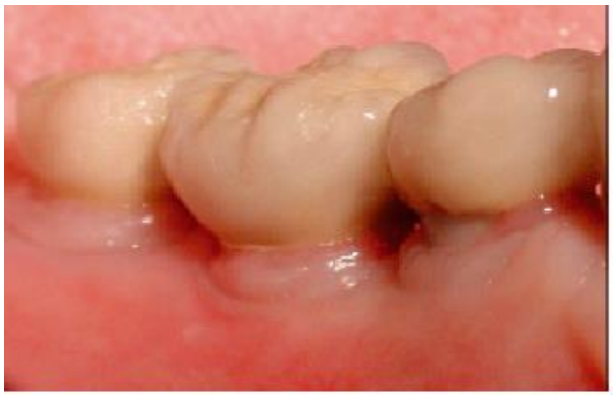


Figure 3. The aspect of the crown, 6 months after its insertion.

Moreover, the zirconium surface presents a bacterial colonization which is visibly inferior to the titanium surface.

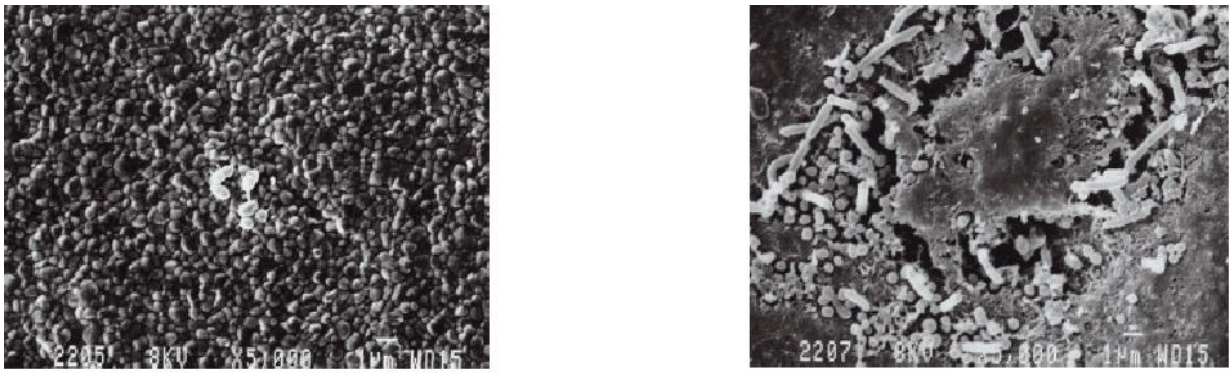


Figure 4. The microscopic aspect of the bacterial colonization of the zirconium surface (left) and the titanium one (right).

Of the TBR brand, we have used Z1-M, Z1 and Classic implants.

Z1-M implants provide good aesthetic of the gingival tissue. If placed in the anterior position there is no gray transparency, and in the posterior position the cervical limit of prosthetic rehabilitation is optimized by the zirconium platform.

The Z1-M implants have a zirconium transgingival cervical which:

- Acts as an antibacterial loop

- Improves the adhesion and proliferation of fibroblasts

The Z1 implants with an oct-in connection favored the proper pillar orientation in relation to the opposing teeth.

The Z1 and Z1-M implants provide first intention simultaneous healing of the bone and soft tissue. Surgical and prosthetic protocols are simplified.

The Classic implants present a cruciform apex anti-rotational and autotarodant. Platform switching creates a gum sleeve around the implant which guarantees a perfect tightness against pathogenic bacteria attack.

Of the Nobel brand of implants, we have used the Nobel Speedy Nobel, Nobel Perfect and Branemark system implants.

The Nobel Speedy implants were created specifically for increased initial stability in a bone with a II and III grade density. Thanks to its slightly conical design, these implants provide good initial stability, being used for immediate load release.

The Nobel Branemark system implants are the most versatile type of implants and they were the most often used in the study that we conducted.

The Nobel Perfect implant is unique in terms of aesthetics. It replicates the natural anatomy with a festooned pattern. This type of implant was used especially in the anterior area, where aesthetical requirements are important.

3.1 Materials for bone augmentation used within the study

More often than not, the mesial distal or bucco-lingual diameter of the alveola is superior to the diameter implant. The manner of bone regeneration of the hiatus that appears between the alveola, as well as its interference over the new surrounding soft tissues should also be taken into consideration.

I proceeded to fill this space by inserting the implant. What is even more important is filling the coronary area in contact with the soft tissues. Filling the apical part of the hiatus is not necessary, as intraosseous space fills by itself.

If the hiatus is less than 1.5 mm, it is not necessary to fill this gap. If the hiatus exceeds 1.5 mm, bone augmentation is performed 2 mm from its upper part, whereas its lower part does not require bone blend.

The use of bone augmentation materials was decided according to the clinical situation.

A) If the implant diameter at the crest was less than the alveolar diameter, we used a resorbing material;

B) If the external wall of the implant was more than 1 mm from the alveolar bone, we used a resorbing material;

C) If bone loss is present mostly in the vestibular, we used the bone regeneration technique guided with resorbing membranes material and a bone augmenting material, as the aim was bone formation.

Within the study we used allografts (Phoenix TBF), xenografts (Bio-Oss) and synthetic materials (Ostim).

Allografts are either lyophilized and demineralized bone or lyophilized non-demineralized bone. They are osteoconductive materials that undergo treatment to eliminate antigenicity and risk of infection. The bone goes through freezing processes, lyophilization, liquid nitrogen treatment and demineralization.

The Phoenix graft comes from TBF Génie Tissulaire, which is a bank of tissues and cells.

The Phoenix TBF graft is the result of sampling the femoral head during arthroplasty in live donors. Then the bone is subjected to a virus inactivation treatment.

This type of graft, can be found in the form of powder, block or blades. We used powder (grain size 0,2-1,6mm) which has as main indication alveola and bone defects filling.

Figure 5. The granulated Phoenix bone graft.

In our case we resorted to the tooth 12 extraction, due to its fracture along the root. The patient was proposed extraction with immediate implantation followed by provisional prosthesis.

After the atraumatic extraction of tooth 12, we proceeded to the immediate implantation. I used a TBR implant with a diameter of 4 mm and length of 11 mm.

We should note in this case that the implant in position 12 does not completely fill the alveola. In the anterior maxillary sector the implant placement is different from the tooth position, and following the alveola axis could lead to failure. Upon performing a slightly offset drilling into the palatal and implant placement, I used a Phoenix graft in contact with vestibular wall to fill this space.

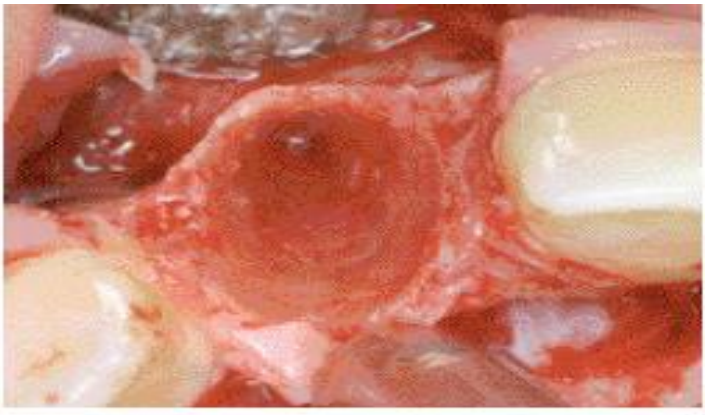


Figure 6. The postextraction alveola in tooth 12.

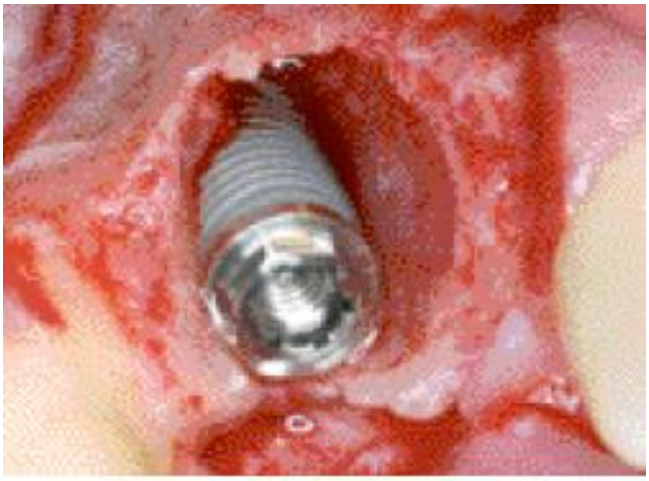


Figure 7. The implant inserted into the post-extraction alveola does not completely fill the alveola.

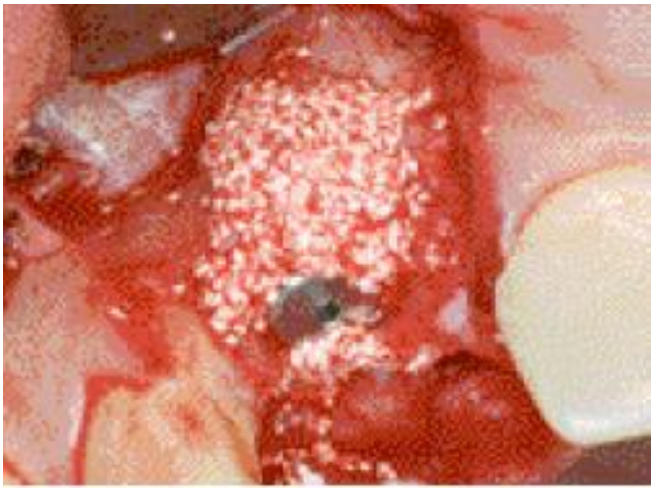


Figure 8. Filling the periimplant space with Phoenix bone graft.

Xenografts have emerged as an alternative to allografts. They are of animal (bovine or porcine) origin. Their organic content is suppressed, only their mineral structure is left intact.

Of the xenografts, we used the Bio-Oss xenograft, which is a non antigenic and natural bone texture. It is obtained from bovine bone whereof the organic elements were removed. The inorganic bone trama presents macro and microscopic structures that are similar to the human bone.

Bone neoformation and penetration at the site where Bio-Oss was implanted are favored by trabecular architecture and its natural consistency.

Bio-Oss is recommended for:

- Post-extraction alveola augmentation to favor maintaining the alveola ridge

- Filling implantation defects accompanied by products intended for guided bone regeneration

I mixed Bio-Oss in a well of blood coming from the bone defect .Thanks to pronounced hydrofilicity, particles adhere very well to each other.

We used resorbing membranes (Bio-Gide, vicryl membrane) which have the following benefits:

- There is no membrane withdrawal surgery

- They simplify surgical procedures.

The evolution of the membrane after its insertion is done in four steps:

- hydration

- deformation

- degradation

- resorption

Bio-Gide is a pure collagen resorbing membrane of type I and III. Bio-Gide has a two-layer structure: a porous surface (the one in contact with the bone), which allows the hematopoietic cell penetration, and a dense surface (the one in contact with the soft tissues) that will prevent invasion of the bone defect by fibrous tissue.

Figure 9. Bio-Gide resorbing membrane.

The bone defect was filled with Bio-Oss. The Bio-Gide membrane size was adapted to the defect. I put a dense surface in contact with the soft tissue and the rough surface in contact with the bone. The contact with saliva should be avoided in order to minimize bacterial contamination.

4. PROSTHETIC

Before approaching the principles of immediate load release implants, it is important to define the immediate load release. To do this, it is necessary to determine:

- The acceptable timeframe between the implant insertion and releasing the load upon

- The type of forces exercised on implants

The most common length of time needed to achieve a prosthesis immediately after implant surgery ranges from several hours to 5 days.

Numerous studies published in the literature stated an interval of 48-72 hours. In the study that I realized, I observed the same period for the immediate load release, namely 48-72 hours.

Defining the biomechanics of immediate load is also discussed. For some authors, the concept of immediate load release is applied even if the coronary part of the prosthesis is not placed in the occlusion. For other authors, we cannot speak of an immediate release of the load as long as the prosthesis is not placed in occlusion.

Within the present study we conducted prosthesis on implants within an interval of 72 hours. Depending on the primary stability of the implants, I achieved or did not achieve the immediate load release of the prosthesis upon implants.

This method is a significant benefit for the patient, who thus receives treatment enabling the rapid restoration of his aesthetic and functional needs. The patient, who generally wants a quick and increasingly aesthetic solution, especially when the implant is placed in the anterior area of the maxillary or the mandible, therefore has a prosthesis in place over the implants within the next 72 hours, instead of 4-10 weeks, as required within the classical treatment.