Problem-based solutions for delayed implant placement in the aesthetic zone

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Introduction
Impact prosthetic solutions have become a reality therapy in front restoring teeth although the survival rate of implants has been over 90% in the first 5 years; however, activity both in the dental aesthetic zone still remains a challenge, especially in cases where the tooth has been missing for more than 8 years. In these cases, the dental bone loss and soft tissue recession over 6 mm. The challenge is limited to the aesthetic zone and the prosthetically correct position. In the following case report, it would be presented examination of the problems and how they can be solved.

Objectives
Present the problems and solutions in case of delayed implant placement in the aesthetic zone.

Materials and Methods
Ahealthy adult patient (30-40 yrs old) who had previously lost tooth 21, crown in the dental arch for las 5 years for an implant crown situation. Case was treated two years ago, the problems to overcome were the following:

- Perio convexity of alveolar ridge In 11 and 21
- Angle of implant placement
- Loss of bone height and width

The treatment plan included prosthetic and surgical phase, which was planned beforehand. The surgical plan included guided bone regeneration (GBR) with deproteinized bone matrix (Grafton®) (Cem Osseo), DBM mixed with resorbable collagen membrane (Bio-Gide®) by Biomet 3i, used to cover the membranes, and a titanium mesh (Perioguard®) by Biomet 3i. The bone grafting was performed by the use of a 3.0 acrylic restoration, with a temporary crown and an acrylic soft tissue environment. Digital planning was performed software planning and guided surgery for a more accurate prosthetic planning.

Software planning
One of the major challenges in implant placement is placing the implant in the correct prosthetic position, since many times the implant is splinted out. The digital planning was made outside of surgery by using a software program. The digital planning is possible to observe that the implant is not to be placed too labially. The software planning was performed with the programyz, the bone grafting was performed by the use of a 3.0 acrylic restoration, with a temporary crown and an acrylic soft tissue environment. Digital planning was performed software planning and guided surgery for a more accurate prosthetic planning.

Surgery
Before starting the surgical procedure, the patient was prepared by Nolavixx prophylaxis. A peripheral flap preparation was performed by making an intrasulcular incision for the mucosal elevation and the vertical incision, followed by the horizontal incision. The bone was exposed by the use of bone Ti crown (Fig. 1 and 2) with 3 mm in diameter. The flaps was placed (Fig. 3 and 4) and 3 mm in diameter. The final guided bone regeneration (GBR) with deproteinized bone matrix (Grafton®) (Cem Osseo), DBM mixed with resorbable collagen membrane (Bio-Gide®) by Biomet 3i. The bone grafting was performed by the use of a 3.0 acrylic restoration, with a temporary crown and an acrylic soft tissue environment. The final guided bone regeneration (GBR) with deproteinized bone matrix (Grafton®) (Cem Osseo), DBM mixed with resorbable collagen membrane (Bio-Gide®) by Biomet 3i. The bone grafting was performed by the use of a 3.0 acrylic restoration, with a temporary crown and an acrylic soft tissue environment. The final guided bone regeneration (GBR) with deproteinized bone matrix (Grafton®) (Cem Osseo), DBM mixed with resorbable collagen membrane (Bio-Gide®) by Biomet 3i. The bone grafting was performed by the use of a 3.0 acrylic restoration, with a temporary crown and an acrylic soft tissue environment. The final guided bone regeneration (GBR) with deproteinized bone matrix (Grafton®) (Cem Osseo), DBM mixed with resorbable collagen membrane (Bio-Gide®) by Biomet 3i. The bone grafting was performed by the use of a 3.0 acrylic restoration, with a temporary crown and an acrylic soft tissue environment.

Discussion & Conclusion
The following case demonstrates the use of many different techniques, which can overcome most problems that clinicians have been facing implants in the aesthetic zone. The first prerequisite was good implant placement in the correct prosthetic position. The case of a bilateral surgical guide will secure this task. The second correct amount of bone regeneration, exposed on the central part of the implant. The crown restoration was designed to have enough room on the central part of the implant. The bone grafting was performed by the use of a 3.0 acrylic restoration, with a temporary crown and an acrylic soft tissue environment. Digital planning was performed software planning and guided surgery for a more accurate prosthetic planning.

References


Problem solutions
- Corrupted implant placement – Use of software planning & guided surgery
- Lack of both bone and soft tissue regeneration – Use of bone grafting
- Insufficient available bone – Use of bone grafting
- Soft tissue regeneration – Use of an acrylic soft tissue environment
- Inadequate soft tissue coverage – Soft tissue management
- Inadequate bone coverage – Bone grafting
- Insufficient implant crown – Insufficient crown planning and – Insufficient implant crown planning and – Insufficient implant crown planning and – Insufficient implant crown planning and – Insufficient implant crown planning and – Insufficient implant crown planning and – Insufficient implant crown planning

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