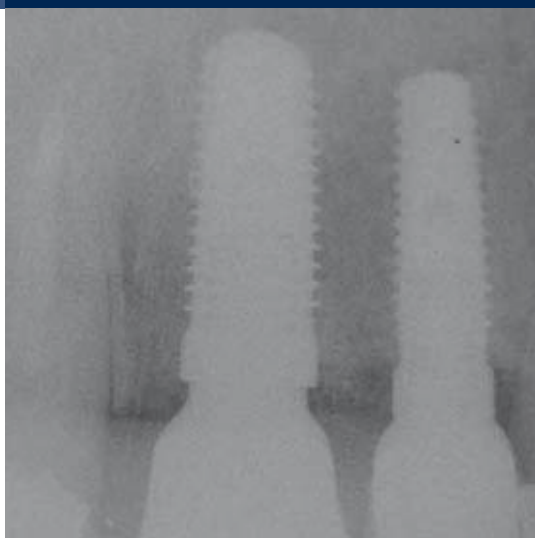
CASE REPORT 04 | 2010

IMMEDIATE SINGLE IMPLANT WITH SCREW-RETAINED IMMEDIATE RESTORATION

MASTERING ESTHETIC RISK SITUATIONS BY USING CAMLOG® SCREW-LINE IMPLANTS

camlog

a perfect fit™



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Doctor Juan Manuel Vadillo works and practices as a Clinical Coordinator in the Stomatology Service at the private Hospital de San Rafael in Madrid.

Educated at the Universidad Complutense, he combines his clinical activities with lecturing at the Universidad Alfonso X El Sabio (Madrid) and at the Universidad de Sevilla where he teaches the subjects Prosthodontics and Gnathology.

Dr Vadillo has been using the CAMLOG® Implant System surgically and prosthetically since 2005 and since that time he has been transferring his clinical experience by actively working in the ICA (Iberian CAMLOG Academy) and the CAMLOG Foundation, including involvement in various international and national congresses.

IMPLANTS USED

Tooth	18	17	16	15	14	13	12	11	21	22	23	24	25	26	27	28
Implant type									SL							
Implant length									13.0							
Implant Ø									5.0							
Implant surface									PP							

Tooth	48	47	46	45	44	43	42	41	31	32	33	34	35	36	37	38
Implant type																
Implant length																
Implant Ø																
Implant surface																

Impl. type: ROOT-LINE (RL)/SCREW-LINE (SL) **Impl. surface:** Promote® (P)/Promote® Plus (PP)

PROSTHETICS

- ☐ standard
- ☒ platform switching
- ☐ removable
- ☐ fixed
- ☒ crown
- ☐ bridge
- ☒ cement-retained
- ☐ screw-retained
- ☐ partially edentulous
- ☐ edentulous
- ☐ others

- ☐ Universal abutment
- ☒ Esthomic® abutment
- ☐ Telescopic abutment
- ☐ Gold-plastic abutment
- ☐ Ceramic abutment
- ☐ Individual zirconium abutment on titanium base
- ☐ Logfit® abutment
- ☐ Locator® abutment
- ☐ Bar abutment
- ☐ Ball abutment
- ☐ Vario SR abutment
- ☐ others

INFORMATION ON PATIENT AND TREATMENT

Male patient, aged 50 years, displaying a 6-year-old ceramic metal dental implant-supported restoration of the anterosuperior sector. For unknown reasons, 21 which had been restored with a fibre bolt, fractured longitudinally. This necessitated its extraction. 11 displays a full-ceramic restoration and 22 a 24-month-old ceramic metal restoration on a CAMLOG® SCREW-LINE Promote® implant.

In view of such a clinical situation, a treatment plan meeting the esthetic requirements of the case is proposed. Following the clinical and radiological analyses and due to the width of the root, a plan for placing a 5 mm diameter immediate implant with concomitant regeneration to stabilize the vestibular bone is put into effect. In addition, due to the planned three-dimensional placement, a decision is taken not to cement the provisional tooth and to avoid contamination of the wound, by modifying a CAMLOG® abutment for temporary implants and making an immediate temporary screw-retained restoration.

Due to the esthetic requirements of the case, a plan is put into effect (modified platform) to realize a subsequent definitive restoration on Esthomic® PS abutments, for this reason, the temporary abutment is also placed with a cervical line modification to make it compatible with a reduction in platform size.

First stage: Radiological and clinical diagnosis

Fig. 1: Preoperative clinical situation. Spontaneous loosening of the ceramic metal crown and the reconstruction with the fibre post.

Fig. 2: Radiological situation, with ceramic metal crown and fibre post in 21.

Fig. 3: Radiological situation without crown and fibre post. The interproximal bone is preserved. The prime objective is to preserve this bone at all costs.

Second stage: Atraumatic extraction and conservation of the integrity of the alveolus

Fig. 4: The tooth is extracted without trauma, maintaining the vestibular cortex and the soft tissue architecture.

Fig. 5: Alveolus very carefully scraped out with a currete to eliminate any infectious residue.

Fig. 6: The walls are probed taking special care of the vestibular cortex to rule out fenestrations or dehiscences to allow implant placement without needing to open a mucoperiosteal flap.

Third stage: Placing the implant and bone graft

Fig. 7: Milling in the palatal wall. Inclination and depth positioner. According to the diagnosis, the ideal length is 13 mm.

Fig. 8: Milling in the palatal wall.

Fig. 9: Placing the 13 mm x 5 mm CAMLOG® implant by adhering to the surgical and prosthetic protocols.

Fig. 10: Implants placed in the palatal wall and a 1.5 mm gap. The minimum distance to the adjacent teeth is respected to lessen the risk of subsequent osseous resorption.

Fig. 11: Measuring with Ostell confirms an ISQ of 86. This objective value is key when it comes to deciding whether or not to make an immediate restoration.

Fig. 12: Although the gap can be self-regenerating, the next step involves placing a heterologous bicalcic phosphate material (KeraOs®) to stabilize tissues in the medium term.

Fourth stage: Manufacture and placement of the temporary immediate crown

Fig. 13: Bicalcic phosphate material (KeraOs®) in place.

Fig. 14: Placement of the temporary abutment and adjustment to the prosthetic space. Retentions are made with a milling tool to enable the temporary acrylic tooth to be stuck to the abutment mechanically.

Fig. 15: Placement of the temporary abutment. The vestibular zone is marked and space is left for mechanically placing the acrylic crown.

Fig. 16: The temporary tooth is put into the gap, and an occlusal perforation is made to allow the placement and removal of the temporary tooth. The screwdriver has to enter smoothly and without interference.

Fig. 17: Bonding. Resin cement or composite (Relix, 3M) is injected around the temporary abutment to bond both parts. The chimney is protected beforehand using teflon.

Fig. 18: The provisional tooth is removed for extraoral processing.

Fig. 19: Extraoral recontouring, adding composite and generating a morphology to match the anatomy of the central incisor and its emergence profile. To achieve this, the temporary restoration has to be screwed onto a laboratory analog.

Fig. 20: Extraoral polishing

Fig. 21: Placing the temporary screw-retained crown manually.

Fig. 22: Screw-retained temporary crown.

Fig. 23: Occlusal check. The contacts of 21, both when closed and in various mandibular excursions, are eliminated.

Fig. 24: Immediate radiological check. The relative height of the osseous walls is controlled.

Fifth stage: Manufacture and placement of the definitive crown with Esthomic® PS abutment

Fig. 25: Check at 10 weeks. The soft tissues and the emergence profile exhibit a healthy appearance, which enables the definitive restoration to be performed.

Fig. 26: Taking an individualized impression with a closed tray. As the tissues collapse, it is indicated to take an individualized impression.

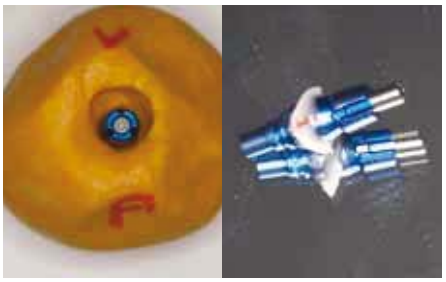

Fig. 27: The emergence profile created with the temporary crown with composite is duplicated.

Fig. 28: Careful placement of the individualized impression abutment with composite.

Fig. 29: The individualized impression abutment placed in the mouth to stabilize tissues.

Fig. 30: Impression-taking with silicon.

Fig. 31: Plaster model with the laboratory crown.

Fig. 32: Restoration and Esthomic® PS abutment metal-ceramic crown.

Fig. 33: Soft tissues at 16 weeks. Maturation allows the definitive restoration to be placed.

Fig. 34: Esthomic® PS abutment screwed in at 20 Ncm.

Fig. 35: The chimney is plugged with teflon and a temporary cement (IRM, Kerr).

Fig. 36: The final restoration with definitive cement and a normal smile.

CONCLUSIONS

There is no doubt that we are navigating complex waters when we combine less predictable techniques such as **immediate implants, immediate restoration** and **platform switching (PS)**. Nevertheless, these are treatment alternatives proposed more and more frequently due to the high esthetic requirements of our patients and the necessity to reduce therapy times.

Consequently, we need to have secure, dependable surgical and prosthetic techniques which allow risks to be minimized and which provide our patients with feasible therapeutic options both functionally and esthetically.

For this reason, placement of **self-cutting implants with a minimal surface** (Promote® Plus) and the placement of screw-retained temporary restorations offer us a high degree of success and reduce the potential risks associated with immediate restorations. At the same time, the creation of a favorable soft-tissue architecture justifies the use of abutments with a **modified platform (PS)** which assist in this objective.

For this reason, in view of the fact that we need to satisfy the requirements of our patients, let us at least do it through controlling the majority of factors, by empowering the positive and diminishing the negative ones, by using high-grade materials and refining our surgical and restorative techniques.

BEFORE TREATMENT

Fig. 37: Case before surgery. Vertical fracture of 21, detected by the repeated decementation of the restoration with the bolt. The probing depth was increased (7 mm distal).

AFTER TREATMENT (20 WEEKS LATER)

Fig. 38: Periimplant bone around 21 and 22 in relation to the Esthomic® Abutment and the clinical image of the finished case.

NOTES

LITERATURE

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SUPPLIERS

KeraOs® (Keramat) as osseous substitute
Osstell Mentor (Ostell Investments Ltd)
Resina RelyX™ resin cement (3M-ESPE)
Ketac™ Cem (3M-ESPE)
Express™ 2 addition silicon (3M-ESPE)

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