TOTALLY INVASIVE!

IMMEDIATE PLACEMENT AND FUNCTION ON FULL ARCHES IN ONE SITTING VIA GUIDED SURGERY
INITIAL CLINICAL DESCRIPTION & DIAGNOSIS
(Figures 1 to 5)

The 42-year-old patient appears for consultation further to a general periodontal disease and some recurrent abscess around his teeth. The majority of his teeth are mobile (Mobility 3 of Muhelmann index). During the clinical examination, we can notice that he suffers from generalized chronic periodontitis one. He explains he has already had some periodontal treatments but without success. He complains about the loss of many teeth and a disharmonic smile. After the inspection of his face, we can notice asymmetry between the interpupillar line and the incisal plane and between the medial sagittal plane and the interincisal plane.

Our goal of treatment is to treat this patient for function and esthetics. As only some teeth are valid, we decide (based on a discussion with the patient) to extract all teeth and to put implants in two arches. The treatment takes place in one sitting: immediate placement, immediate function on full arch. This treatment avoids bone graft and long time of treatment. In order to optimize the duration of the surgery and the goals of the treatment, we decide to use guided surgery for maxilla and mandible.
CLINICAL STEPS

PROSTHETIC PROJECT
(Figures 6 to 8)

The use of Ditramax helps us to transfer median sagittal plane and interpupillary line on stone model. The dental technician has information to realize the prosthesis project in harmony with the face. The lab starts setup thanks to the references written on the stone model. We obtain a full double arch project.
RADIOLOGIC GUIDE
(Figures 9 to 14)

We use the dual scan technique. This technique was described by Van Steenberghe (2003) and modified by Cantoni & Polizzi (2009). This modification allows using the dual scan in immediate placement. The guide is in two parts: the first one is for the first acquisition of the patient. The patient has to put it in his mouth during Ct-Scan. The second part of the guide clips on the first one and represents the future teeth. Both parts must be assembled for the second acquisition.

In this technique, we can plan implants with actual teeth and future project. We decide to keep two teeth on each arch to stabilize the guide and transmit intermaxillary relation after surgery.

When the guides are received, the lab can prepare the models before the surgery. This step is necessary to gain time for immediate function on the day of surgery.
All the teeth are extracted, only two teeth per arch are kept to stabilize surgical guide and device for impression. Silicon index is a tool to confirm the right position of the two guides. We can notice the accuracy of the guide on the tooth. After the extractions, the implants are put in the bone by the guides. The impressions are made with the device on the two teeth. Some rubber dam is used in order to avoid putting silicon in sockets.
TEMPORARY PROSTHESIS  
(Figures 20 to 25)

Dental technician (Philippe Buisson) made two provisional prostheses with acrylic resin. We can see lab, clinical, radiographic results. We can observe the result on the patient’s face, the result with the different lines (interinscial line and median sagittal plane are aligned, interpupillary line and incisal plane are superposed).
Plaster impression is realized to transmit the final position of the implants and abutments. Then, the technician of the laboratory (Sébastien Mosconi - Design Oral) realizes all the stages of the production of the definitive prostheses.

First, the guiding assembly (editing) is realized by duplicate of the temporary prosthesis in resin. Improvements are brought about by a wax-up which allows polishing the last details of the final prosthesis. This assembly is validated in mouth. Then, a mold of the guiding assembly is created: this one will allow injecting the composite resin by scrupulously inspecting the realized guiding assembly.

The framework in titanium is beforehand prepared and it is screwed on the model. The group is put back in middle with stalks of injection. The mass dentures are injected then, once the polymerized resin, stalks are cut. A technique of cut-back is applied so that characterizations could be added to the mass dentin and stratify enamel over mass composite. Then, the false gum is stratified: from the light to the darkest. The dark masses are more important. Finally, we see the finished prostheses on the articulator.
We can see the prosthetic rehabilitation in endobuccal view, in the smile and in facial view.
CONCLUSION

The use of a tool such as the guided surgery allows optimizing the result of the implant’s position and thus the final prosthetic result. All this provides the complete satisfaction of the patient because we have complied with his wishes for functional and esthetic prostheses.