

MATERIALS AND APPLICATION METHODS OF CUSTOM ABUTMENTS AFTER SHAPING THE SOFT TISSUE

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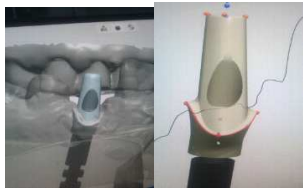
INTRODUCTION

In the dental implant applications, prosthodontic rehabilitation step is as vital to success as the surgical procedures. Implant prosthodontic restorations can be fabricated with different techniques. For some cases, using custom abutments may become imperative. The greatest reason for this necessity is the implant placement hindering prosthodontic rehabilitation functionally and esthetically. The prefabricated abutments provided by the implant companies are accepted as the gold standard because of their biocompatibility and advanced mechanical properties. However they are being replaced by custom abutments ideally prepared with CAD/CAM techniques; due to disadvantages of prefabricated abutments such as esthetic flaws, mechanical insufficiency resulting from implant placement, unacceptable emergence profile and unhygienic regions formed under angled abutments.

CASE REPORT

The 31 year old female patient came to our clinic, with complain about the discomfort of the metallic reflection from the upper side gingiva of the implant which is located on the 22nd dental region. When you take a look at the history of the patient, it understood that the 22th teeth was extracted due to a trauma and during the extraction buccal bone is broken. The patient decided to have the implant because she didn't want the adjacent teeth to be prepared. The complain about the fixed prosthesis of the implant did not come to an end therefore the implant's, bone augmentation and later on gingiva forming have been done. Now we see the patient's photographs when she came to our clinic. We see that the first over-implant crown prosthesis applied to the patient is a crown prosthesis with metal substructure and prefabricated titanium abutment is used. We realized on the clinic examination that the location of the implant is deeper and the gingiva's thickness is 5mm. For that reason, we decided to apply the abutment which is prepared with a CAD / CAM system as a customize ceramic abutment. The measurement which's sent to the lab is transferred to the computer and with CAD / CAM system, customize I zirconia abutment preparation is done. After that zirconia substructure and the final photos are shown.





RESULTS

Titanium superstructures' grey color reflection through the peri-implanter mucosa influence the esthetical view negatively. In consequence of the patients who has higher laughing line, gingiva pull-out or gingiva with thinner peri-implanter mucosa, ceramic abutments application have become necessary. As distinct from the prefabricated abutments, with the abutments which can be customize produced by CAD / CAM system, it is possible to achive the minimum or the maximum thickness for the choosen region. Especially during the recovery time of the patient, on the esthetical region after reforming the soft tissue, the natural gingiva's output profile can be created, the parallelism of the abutments which are located with different angle can be easily prepared without any reducement of the material. At the same time the microcracks while prefabrication in the labor and the harmonization in the mouth caused by using burses can be eliminated. From past to the present, the 3 basic materials used for the implant supplied prosthesis are titanium, alumia and zirconia. Till the beginning of early 90s no other material but the titanium is used as a prefabricated abutment material. The results of clinical and in-vitro researchs about use of alumina abutments compared to titanium abutments are having low pysical resistance,require more technical precision to the production stage and because of its radiolucent image , researchers begin seeking an alternative materials. However implementation of CAD/CAM systems in the use of custom abutments production process is accelerated and the technician errors are eliminated both. In the following period, with more researchs the materials become that more durable, having less producing time and lower cost are expected. With the increase of the number of variations in actual techonology and materials, clinicians get the oppurtunity to make more succesful restorations within long term studies. Researchs support that custom abutments are superior with respect to standart abutments. In addition to this , more long term clinical observations need to be done about usage of custom abutments.

