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Carbon Fiber Frameworks and Lithium Disilicate Crowns for Implant Rehabilitation: Case Report

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ABSTRACT

I would like to present a case report of a 27-year-old women patient. Her chief of complaint was to rehabilitate her mouth with a fixed implant prosthesis. The patient came to my dental clinic partially edentulous in the lower jaw with hopeless remaining teeth, completely edentulous in the upper jaw, reduced intraoral space and a gingival smile. The treatment plan for the patient was a full mouth implant rehabilitation: 18 implants (10 implants on the upper and 8 on the lower jaw) and both prostheses made with a carbon fiber framework and lithium disilicate crowns cemented over them. The first step was to extract all the remaining teeth, but without the provisional removable prostheses due the skeletal condition and the reduced intraoral space. Implant surgery was performed 2 months later: bilateral sinus lift, horizontal bone regeneration and 18 implants in one day under sedation. Was impossible to place the provisional prosthesis. In a second step, 4 months later, provisional prostheses in both arches were made and placed the day of the orthognathic surgery (maxillary impaction) under general anesthesia. Four months later, the final prostheses were performed: both screwed carbon fiber frameworks and lithium disilicate crowns cemented over them. Today, a new era of materials can improve our implant rehabilitations. Different materials such as Carbon Fiber, Peek, Glass Fiber or Quartz Fiber with composite, hybrid composites or lithium disilicate crowns cemented over them, can offer the best solution for our patients. Their occlusal impact absorbing and dissipating behavior (functional or parafunctional impact) allows to obtain a lower stress in the implant-bone-prosthesis area, reducing the risk of bone resorption of the implant when the patient has gingival inflammation. All of us have the patient with a high risk to have gingival inflammation: smokers, patient with poor hygiene, previous periodontitis, genetic factors.

Keywords: implant, carbon fiber framework, removable prostheses, maxillary impaction