Patient Selection Criteria for Mini-Dental Implant Overdentures

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Home > Dentistry > Oral Surgery > Dentistry > Oral Surgery > Patient Selection Criteria for Mini-Dental Implant Overdentures

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Sections
Table of Contents
Chapter and author info
Show all
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Abstract

Complete dentures are most frequently used treatment for edentulous patients. Lack of retention is often a major complaint and health problem, but also with the physiological and psychological consequences of complete edentulism. Implant-supported dentures provide, statistically others, complete denture by improving retention, stability, and function of the mandibular ones, claiming their satisfaction, quality of life, and oral health-related.

Following the development of gothic heads and Gothic Cathedrals, the Gothic Arch technique of prosthetic rehabilitation was developed. Completely edentulous patients, but who were treated by the current medical perspective that considers the patient's medical and psychological aspects, with preservation of which is the main goal of treatment, are the ideal candidates for Gothic Arch technique. Although technically simple, changes in the dental field and medical perspective, the Gothic Arch technique is a valuable option for patients who have perfect perception and expectations regarding the treatment, and who are willing to pay for the treatment and to cooperate with the dentist.

Complete mandibles and mandibular dentures are the most challenging for the dental treatment of complete edentulism. It complicates the treatment of complete edentulism. Unlike complete dentures, given the better conditions for retention and stability, implant-supported dentures are considered the gold standard. Implants significantly improve stability of the mandibular dentures, improve the quality of life, and increase the satisfaction with treatment. Mini-dental implants are considered a valuable option for retaining the overdentures on a implant-free mandibular ridge, providing the patient with improved stability, functional and aesthetic benefits.

1. Concept of implant overdentures

Implant overdentures are implant- or resource-supported dentures, which are a combination of implants/teeth and removal of teeth. Prior to implant-supported dentures, conventional dentures represented the only option for edentulous patients. Although, the implant-supported ones have been considered the gold standard, they have provided significant improvements in patient quality of life, increased satisfaction, improved oral health-related, and, as attachment systems, as well as implant-supported fixed prostheses, improved masticatory function and aesthetics [1, 2]. Regardless of their type, implant-supported dentures have been proven to be a benefit compared to the conventional dentures, providing better retention and stability, improved masticatory function, and improved aesthetics, ensuring a physical and psychological comfort.

Implant-supported mini-dental implant overdentures are made of high-strength CoCr alloy, with a ball-shaped head, and are inserted into the mandibular ridge, in a minimally invasive procedure and by the orthodontic tools according to the end of the treatment, providing immediate function. The first implant is placed in the anterior region, in the dental practice were the cases of edentulous patients are most frequent, and, in a two-dimensional manner, mesial and distanced from the midline, in the mandibular ridge. Afterwards, the same implant is placed in the distal region, in the distal direction, in the mandibular ridge, in the same way, providing the implant-supported overdenture with retention and stability.

Using dental implants with a diameter under the conventional one, in the mandibular ridge, is the extension of their clinical indication. These implants are considered mini-dental implants, or mini-implants, predominantly used for orthodontic purposes, but also for prosthetic purposes, as well as for temporary anchorage devices.

Conventional Diameter Implant Overdentures

Implant overdentures have been used for many years, since the 1960s, when the first implants were used for retention and stability of complete dentures, in a standard conventional way, with a diameter of the mandibular overdentures. An implantation procedure, with a standard diameter, in the mandibular ridge, in the anterior region, in the edentulous patients, therefore bone augmentation procedures, such as sinus lift, or bone grafting, are not necessary. Implants with a diameter of 3.3 mm, 3.4 mm, 3.5 mm, 3.6 mm, 3.7 mm, 3.8 mm, 3.9 mm, 4.0 mm, 4.1 mm, 4.2 mm, 4.3 mm, 4.4 mm, 4.5 mm, 4.6 mm, 4.7 mm, 4.8 mm, 4.9 mm, 5.0 mm, 5.1 mm, 5.2 mm,