Research & Review Journal of Dentistry
ISSN: 2582-4686

Small Diameter Implants (SDIs) for Fixed Restorations:Clinical Cases Presenting Over 10 Years Follow-Up

Andrew Mercado
Dr. Andrew Mercado is The Director, Implant Dentistry, Department of Prosthodontics, Nova Southeastern University, Florida, USA.

Corresponding Author: Andrew Mercado, Department of Prosthodontics, Nova Southeastern University, Florida, USA.

Received: 12/08/2020 Accepted: 15/10/2020
Published: 15/12/2020

Keywords: Small diameter implants, Fixed Restorations, Clinical Cases, Over 10 Years Follow-Up

Abstract

Small diameter implants (SDIs) are a viable option for all small dimensional implants since increased osteotomy. The protocols for placement of small diameter implants are similar to standard implants. Advantages these minimally invasive procedures include, is conceptualized and developed of smaller osteotomies, less bone loss, less trauma, less pain, less time in the OMFS lab, which the clinical advantages translate into significant advantages. For medically, financially, and emotionally challenged patients, these implants are a viable option. Disadvantages of these implants are the potential for patients desiring a follow-up period of four years. This is a long time period for patients to be without a permanent restoration and expected life span of a prosthesis. Long term data is not available for these implants and is a potential disadvantage.

Keywords: Small diameter implants, Fixed Restorations, Clinical Cases, Over 10 Years Follow-Up

Introduction

Small diameter implants (SDIs) are a viable option for all small dimensional implants since increased osteotomy. The protocols for placement of small diameter implants are similar to standard implants. Advantages these minimally invasive procedures include, is conceptualized and developed of smaller osteotomies, less bone loss, less trauma, less pain, less time in the OMFS lab, which the clinical advantages translate into significant advantages. For medically, financially, and emotionally challenged patients, these implants are a viable option. Disadvantages of these implants are the potential for patients desiring a follow-up period of four years. This is a long time period for patients to be without a permanent restoration and expected life span of a prosthesis. Long term data is not available for these implants and is a potential disadvantage.

Materials and Methods

The clinical protocol was updated as follows: 1. Immediate loaded with IOS SDIs were treated after 2 months of healing. 2. Immediate loaded with IOS SDIs were treated after 4 months of healing. 3. Immediate loaded with IOS SDIs were treated after 6 months of healing.

The patient has preferred direction 2 and your patient, which is the clinical protocol, which I have used with a softer bone for the second cohort to provide a more predictable outcome. Patients with softer bone have demonstrated a higher failure rate. Patients with softer bone are known to demonstrate a higher failure rate in comparison to patients with harder bone.

All of osteotomies were carried out with a Piezon Surgery.

The clinical protocol was updated as follows: 1. Immediate loaded with IOS SDIs were treated after 2 months of healing. 2. Immediate loaded with IOS SDIs were treated after 4 months of healing. 3. Immediate loaded with IOS SDIs were treated after 6 months of healing.

Table 1: Patients Age Distribution

Table 2: Patients Gender Distribution

12 patients were smokers while 12 patients presented with systemic diseases. Table 3 and Table 4 show the distribution of smoking and systemic diseases.

Table 3: Patients Smoking Distribution

Table 4: Patients Systemic Diseases Distribution

SURGICAL PROTOCOL

Table 5: Follow Up's Months

Surgical Protocol

Prior to the surgery, a cone beam CBCT was taken to evaluate the bone and the anatomy. Once all the scans were reviewed around the surgical site with the surgeon, the surgical guide was fabricated. Patients were given a pre-op Rx of Augmentin 875 mg and Ibuprofen 800 mg.

The surgical procedure was flapless with a Synvet® Surgical Kit (SDI) all of the cases and in vivo, but the cases presented were flapless with a Neoss surgical kit.

Table 6 shows the number of implants placed.

Table 6: Total Number of Implants

Table 7: Total Number of Implants Placed in Each Arch

In many cases, a surgical guide was prescribed to provide a prosthetically driven implant. The surgical guide protected the mandible of the small diameter implants. The surgical guide was used to place the implants in the ideal angulation and depth and to control the vertical and the length of the implant. A full osteotomy is not necessary. The surgical guide controls the depth of the osteotomy.

The surgical guide was used for the surgical procedure according to the guidelines prescribed. Table 8 shows the number of implants placed in each arch. Table 9 shows the number of implants placed in each arch. Table 10 shows the number of implants placed in each arch. Table 11 shows the number of implants placed in each arch.

The surgical guide was used for the surgical procedure according to the guidelines prescribed for a greater number of fixtures. Table 12 shows the number of fixtures.

The surgical guide was used for the SDIs' surgical procedure using one fixture after surgery and again right after healing.

Results

All teeth in each case received 20 teeth replaced to the occlusal plane. Table 13 shows the number of teeth replaced. The teeth were replaced with fixed prosthesis with gender restorations for premolars and molars. 10 patients received implant bridges.

Table 8: Total Number of Implants Placed in Each Arch

Table 9: Total Number of Implants Placed in Each Arch

Table 10: Total Number of Implants Placed in Each Arch

Table 11: Total Number of Implants Placed in Each Arch

Table 12: Total Number of Fixtures

Table 13: Total Number of Teeth Replaced

Table 14: Total Number of Implants Prosthesis

Table 15: Total Number of Implants Prosthesis

Table 16: Total Number of Implants Prosthesis

Table 17: Total Number of Implants Prosthesis

Table 18: Total Number of Implants Prosthesis

Table 19: Total Number of Implants Prosthesis

Table 20: Total Number of Implants Prosthesis

Table 21: Total Number of Implants Prosthesis

Table 22: Total Number of Implants Prosthesis

Table 23: Total Number of Implants Prosthesis

Table 24: Total Number of Implants Prosthesis

Table 25: Total Number of Implants Prosthesis

Table 26: Total Number of Implants Prosthesis

Table 27: Total Number of Implants Prosthesis

Table 28: Total Number of Implants Prosthesis

Table 29: Total Number of Implants Prosthesis

Table 30: Total Number of Implants Prosthesis

Table 31: Total Number of Implants Prosthesis

Table 32: Total Number of Implants Prosthesis

**Table