Journal of Oral Medicine and Dental Research

Genesis-JOMDR-5(4)-68
Volume 5 | Issue 4
Open Access
ISSN: 2583-4061

A Case Study of Left Side Mandibular Subperiosteal Implant: A Step Towards Restorative Success

Hany Harby[1*]
OMFS - Digital Dentistry Specialist - BDS (ASU) MFDS (RCSENG) - MFD (RCSI) Royal College of Surgeons in Galscow and Ireland

[*]**Corresponding author:** Hany Hardy, OMFS - Digital Dentistry Specialist - BDS (ASU) MFDS (RCSENG) - MFD (RCSI) Royal College of Surgeons in Galscow and Ireland.

Citation: Harby H. A Case Study of Left Side Mandibular Subperiosteal Implant: A Step Towards Restorative Success. J Oral Med and Dent Res. 5(4):1-4.

Received: August 02, 2024 | **Published:** August 14 , 2024

Abstract

Dental implants have revolutionized restorative dentistry, providing patients with improved function and aesthetics. Among various types of implants, subperiosteal implants have emerged as a viable solution for individuals with insufficient bone height or inadequate jawbone density. This article presents a detailed case study of a left side mandibular subperiosteal implant, exploring the indications, surgical procedure, and outcomes.

Keywords

Mandibular Subperiosteal Implant; Flap Reflection; sub-periosteal implant

Introduction

Dental implants have revolutionized restorative dentistry, providing patients with improved function and aesthetics. Among various types of implants, subperiosteal implants have emerged as a viable solution for individuals with insufficient bone height or inadequate jawbone density. This article presents a detailed case study of a left side mandibular subperiosteal implant, exploring the indications, surgical procedure, and outcomes.

Patient Background

The patient, a 58-year-old Female, presented with significant bone resorption in the left mandibular area after losing her lower posterior dentition. The patient reported difficulties in chewing and speech, alongside a noticeable aesthetic concern. After a thorough clinical and radiographic evaluation, it was determined that the patient lacked sufficient bone volume for conventional endosteal implants, making subperiosteal implants a suitable option.

Indications for Subperiosteal Implants

1. Subperiosteal implants are indicated in cases where:
2. The patient has insufficient bone height or width for endosteal implants.
3. Patients have a history of failed dental implants due to inadequate bone support.
4. The patient's overall health precludes more invasive procedures such as bone grafting.

Surgical Procedure

The surgical protocol for the left side mandibular subperiosteal implant involved several critical steps:

Preoperative Planning: Comprehensive imaging studies, including CT scans, were used to assess the bone structure and do a prosthetically driven plan and design for the sub-periosteal implant.

Incision and Flap Reflection: A mucoperiosteal flap was created on the left side of the mandible, exposing the underlying bone while minimizing trauma to adjacent tissues.

Bone Preparation: A patient specific designed subperiosteal implant framework was milled, ensuring it conformed to the anatomy of the mandible. The implant was made of a biocompatible material (Titanium Garde 4), promoting biocompatibility with the surrounding bone.

Implant Placement: The subperiosteal implant was positioned under the periosteum, securing it firmly against the bone using mini-screws. This step is crucial as it ensures stability and reduces the risk of implant mobility.

Flap Closure: After confirming proper placement and stability, the flap was sutured back into position with prolene sutures, ensuring minimal tension on the incision site to promote healing.

Postoperative Care: The patient was provided with detailed postoperative instructions, including pain

management, oral hygiene practices, and follow-up appointments to monitor healing.

Outcomes and Follow-Up

The patient was monitored over a six-month period post-surgery, with no signs of infection or implant mobility. The patient reported significant improvements in chewing function and overall quality of life. At the six-month follow-up, the final prosthetic restoration was placed, comprising a fixed bridge supported by the subperiosteal implant. The aesthetic outcome was highly satisfactory, with the patient expressing delight at the transformation in both function and appearance.

Conclusion

This case study illustrates the efficacy of left side mandibular subperiosteal implants as a restorative solution for patients with compromised bone structure. With careful planning and execution, subperiosteal implants offer a successful alternative for achieving functional and aesthetic restoration in challenging clinical scenarios. As dental technology continues to evolve, the role of subperiosteal implants in restorative dentistry remains significant, providing hope for patients seeking effective solutions for missing teeth.

Case Photos

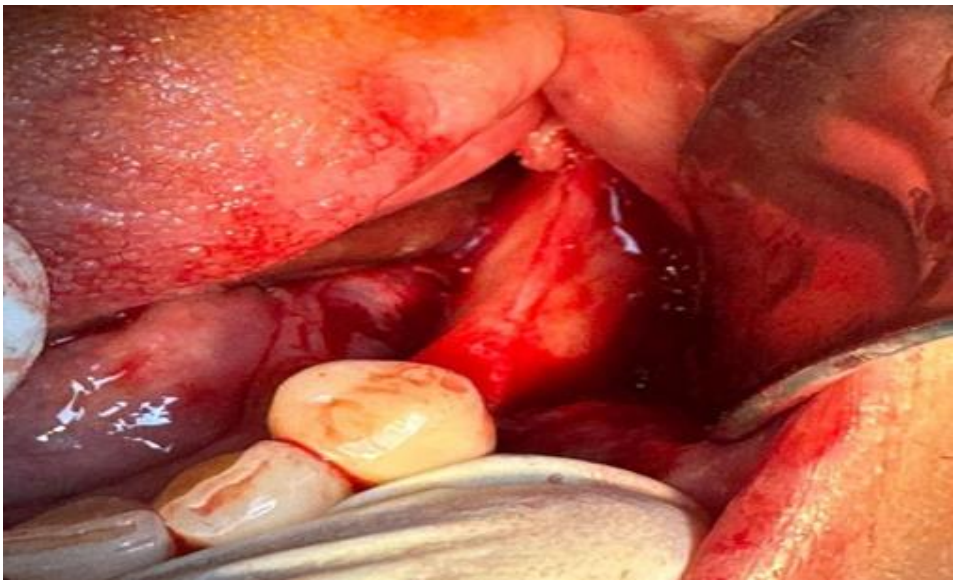

Figure 1: Intra-oral photograph of the flap raised to exposed the vertically and horizontally deficient lower left mandibular ridge.

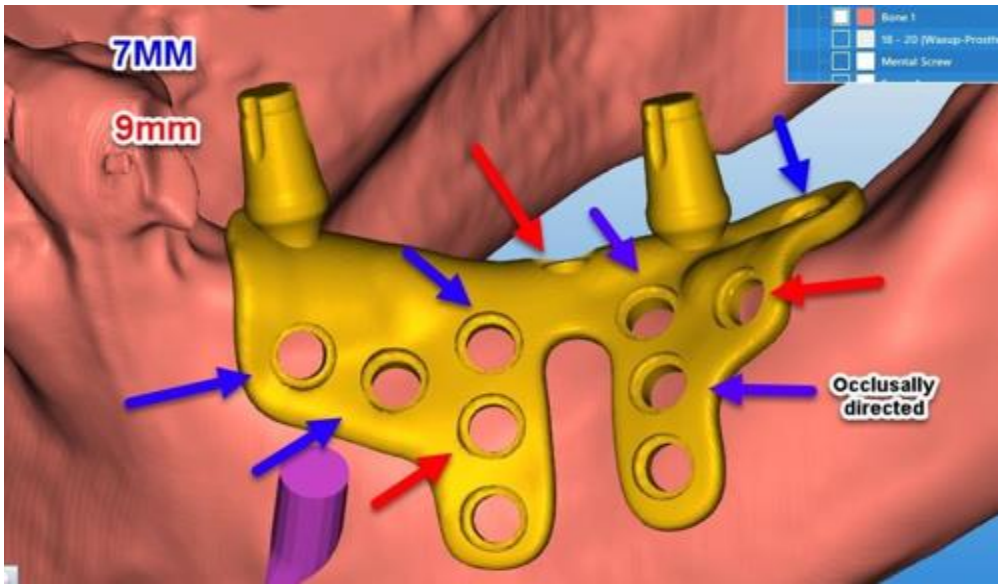

Figure 2: Digital imaging of the subperiosteal implant design and illustrating the lengths of the recommended screw lengths in each site considering the bone thickness and the vital structures in the area.

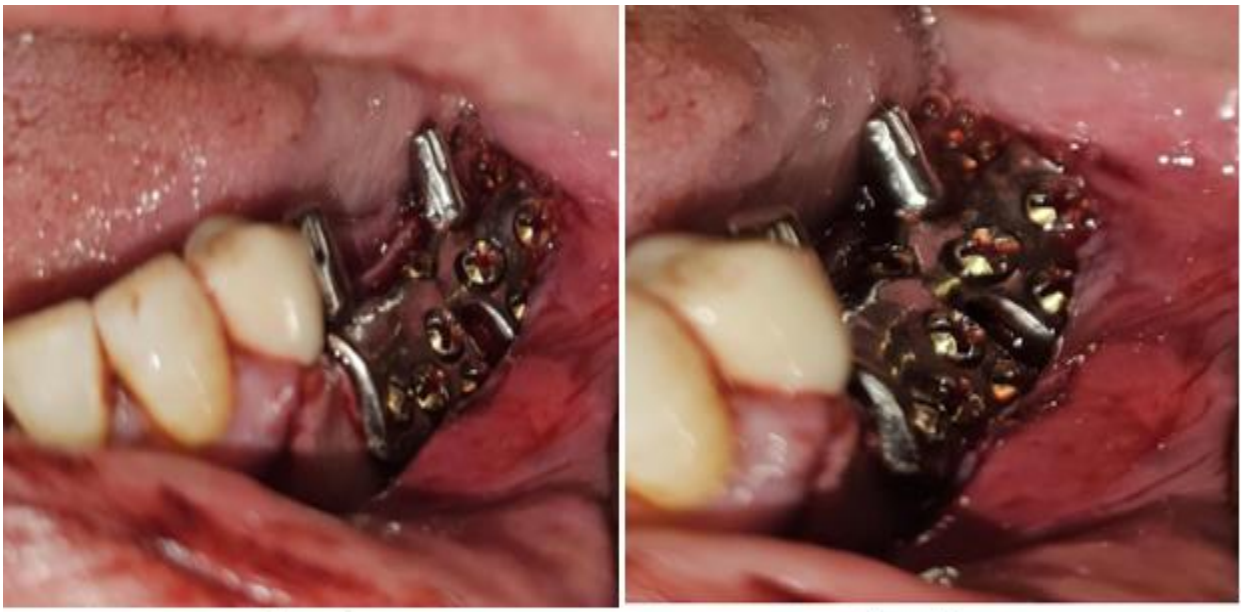

Figure 3 Figure 4

Figure 3 and Figure 4: Intraoperative photographs showing the exposure of the mandible and the positioning of the subperiosteal implant.

Figure 5

Figure 6

Figure 5 and Figure 6: A clinical photo of the tention free prolene suture over the subperiosteal implant after fixation.

References

1. Brånemark PI, Hansson BO, Adell R, Breine U, Hallen O, Ohman A. (1969). Osseointegrated implants in the treatment of the edentulous jaw. J Oral Surg. 27(5):387-395.
2. Hirsch JM, Tjellström A. (2005) Subperiosteal implants: A review of the literature. Clin Oral Imp Res. 16(1):1-10.
3. Sahm V, Schmid M. (2020) The role of subperiosteal implants in modern dentistry: A review. Int J Oral Max Surg. 49(2):157-65.
4. Khan MA, Almas K. (2013) Subperiosteal implants: An alternative treatment for the edentulous mandible. J Oral Impl. 39(1):70-5.