ISSN: 2581-5989
PubMed - National Library of Medicine - ID: 101738774

International Journal of Dental Science and Innovative Research (IJDSIR)

IJDSIR : Dental Publication Service

Available Online at: www.ijdsir.com

Volume – 3, Issue – 3, May - 2020, Page No. : 565 - 569

Rehabilitating the single tooth implant opposing maxillary supra erupted first molar: A case report

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Citation of this Article: Dr.Yaiphaba Rajkumar, Dr. Vijoo Rajkumar, Dr. Devendra Chopra, Dr Ajay Singh, "Rehabilitating the single tooth implant opposing maxillary supra erupted first molar: A case report", IJDSIR- May - 2020, Vol. – 3, Issue -3, P. No. 565 – 569.

Type of Publication: Case Report

Conflicts of Interest: Nil

Introduction

Considering both esthetic and function implant treatment is generally viewed as a reliable treatment method for replacing missing teeth. Implants are used to replace single teeth, as well as multiple teeth, abutments for dentures. It is challenging for the dentist to placed an implant in the anterior region of the mouth. Uses of implants in the anterior region left behind the drawback of conventional method to used the antierior teeth as an abutment.(1)

Choice of treatment should be the least invasive and still satisfy the function as well as the esthetic. Esthetics and function are very much important when considering the rehabilitation of the anteriors. For congenitally missing maxillary lateral incisors regards as challenging problems that often require veneers and orthodontics to achieve an acceptable esthetic outcome. The main objective of the treatment plans should be the conservation of tooth structure. (2)

Osseointegrated dental implants are successfully documented in clinical mainly on the edentulous mandible. It was limited to treatment of the edentulous mandible. Application of screw-retained, cantilevered, full-arch fixed prostheses to replace the conventional mandibular complete denture was a revolution that challenged basic prosthodontic principles. (6)

For the edentulous region opposing a supra-erupted teeth, in order to maintained the implant-crown ratio of 2:1, we need to undergo root canal therapy to maintaine or to achieved the desirable implant-crown ratio, by manipulating during fixed prosthesis procedure.

Case report

32 year old female patient came to Saraswati dental college department of prosthodontics with the missing

mandibular first molar opposing supra erupted maxillary first molar. She wants to replace the missing teeth with implant supported fixed prosthesis.

Implant is placed in the mandibular first molar of the third quadrant and followed up routine was proceed for three months.

Second stage surgery was performed and healing abutment was given for sevendays to uniformly formed the gingival collar. With the help of the impression coping impression was made and the cast is poured. Screw retained fixed prostheses was selected for the rehabilitation of the mandibular first molar. At the time of the abutment trail we found out that their were not enough space for the implant supported crown. Decided to undergo root canal therapy for the maxillary first molar. Crown preparation procedure was proceed and the prostheses was cemented. Ideal space between the implant abutment and the crown was achieved. Screw retained implanted supported crown was placed.

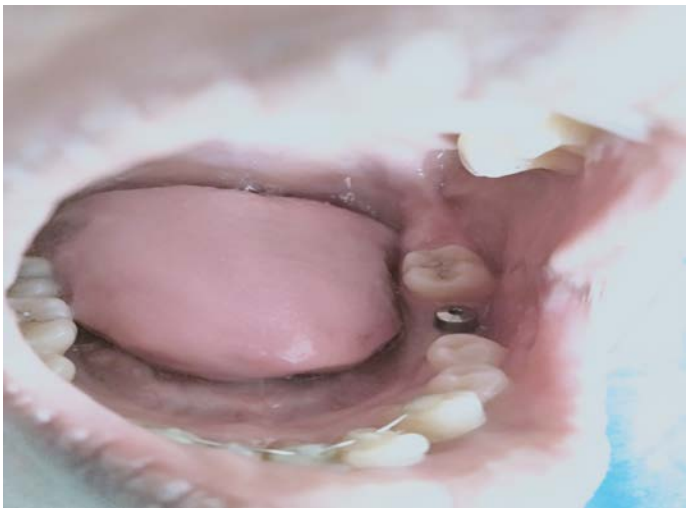

Fig.1: Healing Abutment

Fig. 2: Gingival Collar Is Formed

Fig.3: Castable Abutment

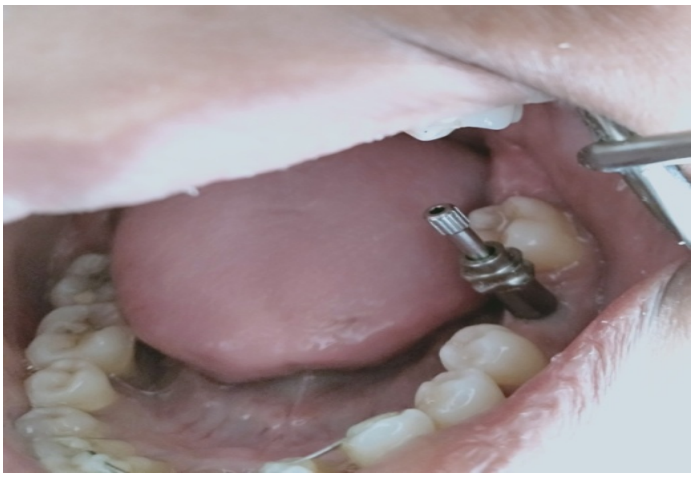

Fig.4: Impression Coping

Fig. 5: Impression with Implant Analog

Fig. 6: Casted Abutment

Fig. 7: Inadequate Inter-Occlussal Space

Fig. 7.1: Inadequate Inter-Occlussal Space In Mounted Cast

Fig. 8: Preparation of Maxillary Molar

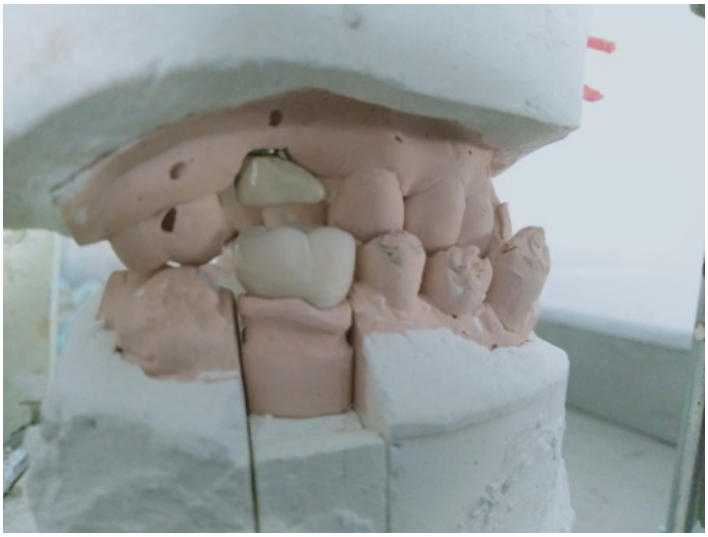

Fig. 9: Prostheses of Maxillary Molar

Fig. 10: Final Prostheses Of Maxillary Crown And Lower Screw Retained Implant Support Single Crown

Discussion

Osseointegrated dental implant is becoming the treatment of choice, alternative are fixed bridges. Conventional method are no longer primary indications in young patients with non carious and restored adjacent teeth. Maryland are also unsuitable because of a high failure rate. Osseointegrated implants are becoming the most biologically accepted and indicated for restoring congenitally missing single teeth(5)

In posterior single-implant restorations, following stringent application of a torquing protocol, the use of permanent cements can be considered. Before cementation, the screw is sealed with a soft provisional resin-based material (Fermit; Ivoclar Vivadent, Amherst, NY), and the crown is cemented with permanent cement. If the abutment screw loosens, the clinician can carefully open an access hole in the crown, remove the soft material that covers the screw access, and retighten the screw. That will leave a hole in the crown and will turn the cemented abutment/crown complex into a screw-retained prosthesis. Because of the implant angulation and the screw-access location, this approach cannot be implemented in anterior implants. Cement selection in anterior single implants should be based on the clinician's past experience with a specific system and his or her comfort zone with various cements. (3)

97 survival for the implants and 83 for the restorations after 4 years with reported durability estimates for conventional and resin-bonded bridges, it seems that—from a cost-benefit point of view single-tooth implants deserve a prominent place in the spectrum of single-tooth replacements. Single-tooth implants show an acceptable short-term survival of 4 years, but crown complications are common. (4)

Cement-retained, implant-supported prostheses have gained popularity because they allow completion of clinical procedures using conventional fixed prosthodontic techniques. In the absence of occlusal screw access openings, cemented implant-supported restorations

offer enhanced esthetics and an increased number of occlusal contacts. Cemented restorations compensate for minor fit discrepancies through use of a luting agent. Film thickness of luting agents can directly affect long-term clinical success. (7)

To achieved the optimal inter-occlussal space opposing supra erupted teeth under go root canal therapy. Endodontic treatment outcome has been the subject of investigation for many years with studies examining success rates using different protocols. The lack of standardization of study protocols and endpoints for determining success make comparisons difficult. Despite the presence of a host of factors that contribute to success or failure of root

canal treatment, the fundamental biologic principle that determines clinical success remains unchanged. Apical periodontitis will develop if the canal system is contaminated with bacteria. But even the best root canal treatment can allow leakage of bacteria and their by products through an apparently well-filled canal system.

Yet the presence of obvious contamination, periapical disease does not necessarily develop in all patients (9)

Conclusion

For achieving optimal inter occlusal space, root canal therapy was push on for the maxillary first molar and PFM (porcelain fused metal) crown cemented. Implant support crown rehabilited successfully. For the success of the prostheses, implant crown height ratio is very much necessary to maintained.

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