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Management of insufficient crown height space with UCLA abutments

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Abstract

The article reports a case where intraorally the crown height space was compromised because of supra eruption of the opposing teeth. Such complication could affect the prognosis of the implant placed with conventional abutments. This article describes a case report where such situation was managed with UCLA abutment.

Keywords: UCLA abutment, Implants, Custom cast implant abutment

Introduction

Implants have become an integral part of the treatment option in the present era of dentistry. Moreover, patients have now are aware of latest treatment possibilities and opt nothing less than the best available treatment for them. However, even though implants have a long list of indication with good prognosis, it also poses with disadvantages and demerits where its use gets limited. This article depicts a similar scenario where because of insufficient crown height space; implants could not be indicated, otherwise. This article describes a case report on how insufficient crown height space of just 5mm was managed with the help of UCLA abutments.^[3]

Case Report

A 28 year old female patient reported to the Department of Prosthodontics in Dayananda Sagar College of Dental Sciences in 2017 to get missing 36 replaced which had got extracted because of caries 1year previously. The patient had no other relevant medical history. On intraoral examination, there was an inadequate crown height space of 5mm, however, however the mesio distal width and the bucco lingual width was adequate. It was decided to insert a 10.5mm length implant with 4.2mm diameter in a two-stage protocol.

Three months later, stage II surgery was performed after adequate gingival healing was obtained. After the impression coping was inserted the correct angulations was seen and it was decided to use UCLA abutments with internal hex. Wax pattern of the UCLA abutments was fabricated and try in was done. The UCLA abutment was trimmed to such an extend such as to obtain sufficient height for the crown replacement at the same time ensuring no high points. The abutment was then casted and again try in was done. Ceramic layering was done, which was glazed and polished after bisque trial.

The patient was kept on 1/2 yearly recall for the first year and later called annually. The final radiograph and clinical examination reveal acceptable level of bone loss and a good aesthetic and functional result overall.



Fig 1: The figure illustrates the UCLA abutment (screw retained) at 36 region, where crown height space is 5mm.



Fig 2: The figure illustrates intra oral placement of UCLA abutment at 36 region.

Discussion

UCLA (University of California Los Angeles) type of abutment directly attaches to the implant and provides a pattern for the creation of a screw retained veneered crown [1]. They are custom made abutment designed to be placed on single implant that lack anti-rotational elements. It's a colloquial term used to describe a dental crown that is attached directly to the implant body by means of a screw without an intervening abutment. [2]

The original design for the UCLA abutment was a plastic burnout pattern. This pattern has a 0.5mm shoulder, short length collar gingivally and a larger screw access hole for a centre screw. The dental technicians modify the burnout pattern with wax to develop the contour for the metal substructure of the crown and then invest the wax pattern and cast it [2].

They are available in traditional plastic forms, gold alloys, gold base with plastic sleeves and in titanium version for provisional restorations. UCLA type abutment are indicated for single and multiple tooth restorations. It is utilized with an indirect technique requiring an accurate impression of the implant.

Summary

This system eliminates the use of transmucosal abutment, thus helping us in achieving restorations with natural appearance. The final restoration can be either screw retained or cement retained prosthesis. The screw retained restoration, the

restoration is fabricated by porcelain application on the cast abutment and restoration is secured by a centre screw [2].

In cement retained restoration the UCLA abutment is modified and cast to resemble a traditional tooth preparation for a full crown. Then a conventional artificial crown is cemented over the customized abutment [2].

Conclusion

With the advent of UCLA abutments compromised scenarios can be managed with excellent results and prognosis. UCLA abutment is not only used for implant supported single crown but also can be used in fixed partial dentures and as bar attachment for over dentures.

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