



## ***Aesthetic Replacement of Malposed Upper Lateral incisor***

### ***By Implant Supported ceramic crown***

#### **ABSTRACT**

**Aims of the Study:** To show the possibility of replacement of malposed upper lateral incisor by implant supported ceramic crown without raising a flap after extracting the tooth **Materials and methods:** An Implant of Xive type made by Dentsply – Friudent of diameter 3.4 and length 13 mm was implanted immediately after extraction of the malposed upper lateral incisor of a woman of 44 years old through the socket without raising a flap .A removable upper single tooth partial denture was inserted immediately after implant insertion. After 3 months period exposure of the implant was done and a gingival former was fixed for 2weeks period after which an impression by elastic material was done after fixing transfer coping on the implant. A cast was made and a ceramic crown was made on the implant with proper shape and color and position which is fixed on the implant in the patient mouth. **Results:**The ceramic crown which is supported by the implant gave a better aesthetic result than the malposed natural lateral incisor regarding shape and position in relation to the adjacent teeth. **Conclusions:** Malposed upper anterior tooth could be replaced by implant supported ceramic crown successfully with out raising a flap giving better aesthetic value than before.

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#### **الخلاصة**

**الهدف:** توضيح إمكانية تعويض القاطع الصغير العلوي المعوج بتاج سيرامك مسند على زرعه ذات طول ١٣ ملم وعرض ٣,٤ ملم تم زرعها مباشرة بعد قلع القاطع العلوي الصغير دون فتح أو شق اللثة . **المواد والطرق:** تم اختيار زرعة ذات طول ١٣ ملم وعرض ٣,٤ لتعويض السن المقلوع وذلك بعد أخذ أشعة للسن والأسنان المجاورة . وتم تحضير طقم متحرك علوي لتعويض السن مؤقتا بعد قلعه خلال مرحلة الشفاء بعد وضع الزرعة . تم قلع السن وزراعة الزرعة من خلال مكان القلع دون الحاجة لشق اللثة . تم اعطاء الطقم للمريضة بعد الانتهاء من زراعة الزرعة وخباطة حافة اللثة . بعد مدة الشفاء البالغة ٣ اشهر تم أخذ طبعة للفك العلوي بعد كشف الزرعة وعمل موديل جبسي لمكان الزرعة والفك العلوي وتثبيت قاعدة للسن وارسالها مع الموديل للمختبر حيث تم عمل تاج سيرامك باللون والشكل المطلوبين لإعطاء مظهر جميل متناسق مع بقية الأسنان . **النتائج:** بعد تثبيت التاج على الزرعة بنجاح تم تحسين المظهر الجمالي للأسنان العلوية الأمامية من خلال تحسين شكل ولون وتناسق سن السيرامك مع بقية الأسنان المجاورة **الاستنتاجات:** يمكن تعويض القاطع العلوي الصغير المعوج بسن سيراميك مسنود على زرعة يمكن زراعتها مباشرة بعد قلع السن دون الحاجة إلى شق اللثة مما يحقق راحة ونتيجة جمالية ممتازة للمريضة.

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The upper anterior teeth play an important role in supporting the upper lip and thus contribute to the aesthetic of the face<sup>(1)</sup>. Sometimes the upper lateral incisor is protruded forward or tilted .thus compromising the alignment of the upper anterior teeth and effect the aesthetic value of these teeth Figures(1,2).



Figure(1)



Figure(2)

#### Case Description

A 44 year old woman came to my clinic complaining of malposed upper left lateral incisor, it was tilted and protruded forward Figure(1).The patient was feeling upset because of this poor aesthetic ,and she demanded a solution. She refused replacement of this tooth by a removable single tooth partial denture<sup>(2)</sup>or a fixed ceramic bridge<sup>(4)</sup>,then she agreed for replacement of this malposed lateral incisor by implant supported ceramic crown to have better aesthetic<sup>(4,5)</sup>.

#### The Procedure

The upper lateral was examined clinically in relation to the adjacent and lower anterior teeth<sup>(6)</sup>.A periapical radiograph Figure(3)was taken for the tooth and adjacent teeth to see the amount of available bone<sup>(7)</sup> in horizontal and vertical direction<sup>(9-11)</sup>.



Figure(3)

An implant of type xive by Dentsply-Friadent of diameter 3.4 mm and length 13 mm was selected Figure(4) .The tooth was extracted after giving local anesthesia Figure(5)



Figure(4)



Figure (5)

The implant bed was prepared according to the requirement of manufacturing company and it was possible to prepare the area and put the implant immediately without raising a flap in order to minimize surrounding tissue shrinkage to have better aesthetic result <sup>(12)</sup>, and the socket was sutured Figures (6 and 7).



Figure (6)



Figure(7)

A single upper lateral incisor removable partial denture was inserted immediately after finishing the surgery solving functional and aesthetic demands of the patient temporary Figure(8) .



Figure(8)

After 3 months healing period the implant was exposed and gingival former type GH3 was fixed to the implant for 2 weeks and relief was done in the tissue surface of the denture to

accommodate for gingival former. A transfer coping was fixed to the implant and double impression technique was taken in elastic impression material Figures (9,10 and 11)



Figures (9)



Figures (10)



Figures (11)

A cast was fabricated and a suitable abutment was fixed and was send to the laboratory for fabricating a ceramic ceramic crown of proper color ,shape. position in relation to the adjacent teeth giving better aesthetic result than the extracted tooth<sup>(13)</sup> Figures (12,13, 14 and 15).



Figure(12)



Figure(13)



Figure (14)



Figure (15)



Figure (16)



Figure (17)

### DISCUSSIONS

Implant supported ceramic crown of proper color, shape and position can give excellent solution for treatment of malposed upper anterior when the patient does not accept a removable single tooth partial denture or fixed partial denture as a solution for such a problem in the aesthetic zone. Immediate implantation of long narrow diameter implant has many advantages for the aesthetic and functional outcome for replacement of anterior single tooth<sup>(14)</sup> first: immediate implantation through the socket after tooth extraction is considered saving in time and effort for the patient and the dentist as well as<sup>(15)</sup>, because the socket is open and it is easy to prepare the implant bed without raising a flap thus preserving the gingival attachment of adjacent teeth which gives better treatment outcome in aesthetic zone. Second: Narrow diameter implant allow sufficient alveolar bone width at both sides of the implant and thus gives better support for gingival papillae<sup>(1,16)</sup>. Third: long implant ensure better osseointegration and stability and longevity of supported single ceramic crown<sup>(18)</sup>. It is essential to fabricate a properly shaped and colored ceramic crown to improve the condition<sup>(11)</sup>

### CONCLUSIONS

Implant supported ceramic crown offer an excellent solution for malposed upper anterior tooth when removable or fixed partial dentures are not preferred by the patient.

**REFERENCES**

1. Wheeler RC :A Textbook of Dental Anatomy and Physiology.4<sup>th</sup> ed,pp 185-283,Philadelphia,1965,lea &Febiger.
2. Wetherill J ,Smales R.Partial Dentures Failure ,Long term clinical survey Dent 8:333-340.1980
3. Zarb G ,Schmitt AEdentulous Predicament.A prospective study of the Effectiveness of Implant supported Fixed Prosthesis *J Am Dent Assoc*, 1996;127:59-72,.
4. Walton JN, Gardner FM,Agar JR. A Survey of crown and fixed partial denture failures : Length of service and reasons for replacement *J ProsthtDent*,1986;56:416
5. Van steeberghe detal. The applicability of osseointegrated oral implants in rehabilitation of partial edentulous: A prospective multi-center study on 558 fixture. *Int Oral Maxillofac Im*,1990;3:27.
6. Misch CE Medical evaluation of the implant candidate. *J Oral implant*,1981;9:556-570.
7. Goaz PW, White SC.Oral Radiology Principles and Interpretation. *St Louis ,Mosby*,1992.
8. Eckerdal O, Kvint S. Presurgical planning for osseointegrated implants in the maxilla ,*Int J Oral maxillofac sur*,1986;15:722-726.
9. Misch CE. Available bone influences Prosthodontic treatment. *Dent today* 44-75,Feb 1988.
10. Misch CE: Density of bone Effect on treatment plans,Surgical approach, healing and progressive bone loading, *Int J Oral implant*,1990;6:23-31.
11. Misch CE. Maxillary anterior single tooth implant health compromise. *Int J dent symp*,1995; 3(10):4-9.
12. Misch CE. Implant success or failure Clinical assessment,pp 29-42,St Louis ,1993,Mosby.
13. Delange GL.Aesthetic and prosthetic principles for single tooth implant procedures an overview. *Pract Perio Easth Dent*,1995;7(1):51-61.
14. Clepper DP. Treatment and design of single implant cases.In Clepper DP,editor : Syllabus of prosthetics for osseointegrated implants ,pp53-70,Augusta ,Ga,1997,omega.
15. Spilman HP. Influence of the implant position on the aesthetics of restoration. *Pract perio aesth dent* ,1996;8(9):897-904.
16. wallace S. ,Tarnow D. The biologic width with respect to root form implants, Int congress oral implant meeting munich , Germany, Oct 1995
17. wallace SS. Significance of the biologic width with respect to root form implants. *Dent impl update*,1994;5(6):25-29.
18. Andersson B. Odman P. Lidvall AM.. Single tooth restorations supported by osseointegrated implants. *Int J Oral Maxillofac Impl* 10(6):702-711,1