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REPLACEMENT OF AN ANTERIOR AND LATERAL TOOTH SEGMENT AFTER RESECTION IN
THE UPPER JAW.

CASE REPORT:

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Contact

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Case Report

Replacement of an anterior and lateral tooth segment after resection in the upper jaw.

Author:

Dr. Vivek Gaur , BDS (Manipal), (IF Clinical Master of Immediate Loading), Clinical Masters (Implant) (UCLA).

Oral Implant & Dental Health Care Center,
Sagar Complex, Etah (U.P), India

Email: drvivekgaur@yahoo.co.in

Phone: +919837035972

Abstract

Due to the development of a malignant melanoma in the area of the anterior dentition of the upper jaw, the saw segment including the teeth 15 - 22 had to be resected. In this article the surgical and prosthetic rehabilitation of the defect using the Strategic Implant[®] is described.

Keywords: Strategic Implant, Oral Cancer, Defect Rehabilitation, Basal Implantology

1. Introduction

At the age of 38 a male patient had undergone partial resection of the upper jaw (premaxilla) after a malignant melanoma had been diagnosed (Figs. 1 -5)



Fig. 1: Clinical view of a malignant melanoma in the area of the upper jaw.



Fig. 2: Palatal view of a malignant melanoma in the area of the upper jaw.



Fig. 3a: The resection was performed with enough safety-distance to the melanoma. View on the palatal aspect of the resected premaxilla.



Fig. 4: 2 years post-operative intra-oral view on the resection site.

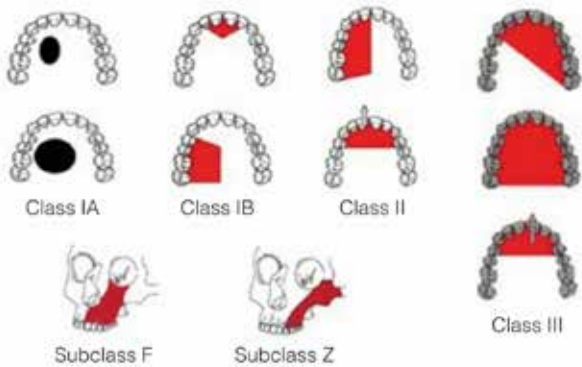


Fig. 3b: The defect is classified Class 1B according to Okay et al. ¹



Fig. 5: Panoramic overview 2 years after the resection of the premaxilla. Some basal bone areals have been kept and all 2nd corticals are available for implant anchorage.

2. Material and Methods

In local anaesthesia a full thickness flap from the upper midline until the first molar (right side of the patient) was deflected. The incision line was kept palatal. The flap was raised towards the christa zygomatico-alveolaris to allow full access in the direction of the zygomatic bone. Using a Piezzotome a lengthy opening into the lateral wall of the sinus was made without rupturing the Schneiderian Membran. The Schneiderian Membrane was medialized carefully to allow access to the body of the zygomatic bone for a 2.2mmd, 50mml drill (ZDI-drill, Manufacturer: Simpladent GmbH, CH-8737 Gommiswald, Switzerland). Care was taken not to injure the roots of the 1st molar. Following this a 45mml «ZDI» Zygomatic implant (Manufacturer: Simpladent GmbH, CH-8737 Gommiswald, Switzerland) was anchored in the body of the zygomatic bone. The head of the implant was later aligned to the other three implants by manual bending (Fig. 6).



Fig. 6: Overview of the implant sites, showing the lengthy insertion path of the zygomatic implant and three BECES® implants.

The site was closed by 3.0 silk sutures. The operation was done unter local Betadine® pro-

tection (5%) and prophylactic antibiotic coverage (Cefalosporin 500mg, twice daily, for 5 days) as well as Fexofenidine (120 mg single dose daily, for 5 days) to avoid sneezing post-operatively. Oral Corticosteroid (Deflacort 6mg, twice daily, 3 days) were prescribed as an anti-inflammatory medication. Analgetics were give to the patient for use on demand. The healing was uneventful and barely anny swelling was observable

Immediately post-operatively the impression was taken. (Fig. 7, 8)



Fig. 7: Post-operative clinical view on the operation site after suturing. 3.0 Silk sutures were used to provide a save closure of the wounds even if a significant swelling would occur.



Fig. 8: Four impression caps (PA X) were placed on the implant head before the impression was taken.

3. Results

Within 24 hrs the semi-permanent fixed prosthesis was delivered and cemented using Fuji Plus Handmix permanent cement (Manufacturer: GC Corp., 76-1 Hasunuma-Cho, Itabashi-Ku, Tokyo, Japan). The bridge contained a stiff metal frame and plastic denture teeth fused by pink acrylics. The patient was immediately able to speak without lisp and he developed within a few days a normal masticatory function.

The bridge supports the lips and partly the lower cheeks. The patient is fully satisfied, especially with the fixed solution, the speed of the treatment and the aesthetic the outcome.

(Figs. 9 - 14)



Fig. 9: View on the semi-final prosthesis from anterior.



Fig. 10: Palatal view on the semi-final prosthesis. Owing to the implant position the prosthesis is slightly thicker than the palatal emergence of the patients own teeth. This might be corrected to some extent when the second bridge is fabricated, either by trimming the implant for phonetics or bending them slightly towards the vestibular side.



Fig. 11: View on the anterior occlusion: No frontal contacts have been created in order to keep all forces inside the supporting polygon.²



Fig. 12: Postoperative Panoramic overview picture. The threads of the ZDI implant are not visible, because they are out of the plane.



Fig. 14: P-A-radiograph taken immediately post-operatively.



Fig. 13: Lateral view of the face, 2 months postoperatively. Regular proportions of the lower midface indicate that enough support for the lips and cheeks was created.

4. Discussion

With this treatment approach it was possible to restore volume and function in one single surgical step and without the hazzles of augmentation.

When using the «1-2-3 classification»³ for maxillo-facial corticals given by Ihde & Ihde (2015) planing of treatment is easy and predictable. This classification is based on the experience that the 1st (crestal) cortical is prone to resorption and should not be considered alone for Strategic Implant® anchorage. Only resorption-proof «2nd corticals» (i.e. in the maxilla or mandible) and «3rd corticals» (sphenoid bone, zygomatic bone, peri-orbital bone) should be used for anchorage.

5. Conclusion

Even severe defects in the area of the maxilla can be treated with fixed prosthodontics on the Strategic Implant®. The treatment time (max 3 days), low invasiveness & low costs, as well as the avoidance of bone transplants makes this treatment approach today the treatment of the first choice. The use of fully polished Beces® and ZDI® implants almost completely excludes the chance for the development of a peri-implantitis.

References

¹ Okay DJ, Genden E, Buchbinder D, Urken M. Prosthodontic guidelines for surgical reconstruction of the maxilla: A classification system of defects. J Prosthet Dent 2001; 86: 352 – 363

² Ihde S., Ihde A.: Secrets of Basal Osseointegration (in Russian), International Implant Foundation Publishing, Munich, 2011, ISBN 987-3-9813659-1-7

³ Ihde S., Ihde A.: Introduction into the work with the Strategic Implants® International Implant Foundation Publishing, Munich, 2015, ISBN 978-3-945889-01-5



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Location:

Frankfurt - Airport

Duration: 4 sessions of 2 days.

Target group: Implantologists, Oral Surgeons, Maxillo-facial Surgeons, Dentists.

Dates: 27./28. 3. 2015 / 8./9. 5. 2015 / 12./13. 6. 2015 / 4./5. 9. 2015 (Budva)

Session 1:

Principles of Basal osseointegration; surgery and prosthetics, treatment planing, avoiding bone-augmentations and sinus-lifts even in difficult cases.

Session 2:

Bone physiology and choice of implant locations (4D-implantology)

Session 3:

Principles of the work with compression screws: surgery and prosthetics

Session 4:

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