Clinical Considerations for Patients with Cleft Lip and Palate: 4 case series

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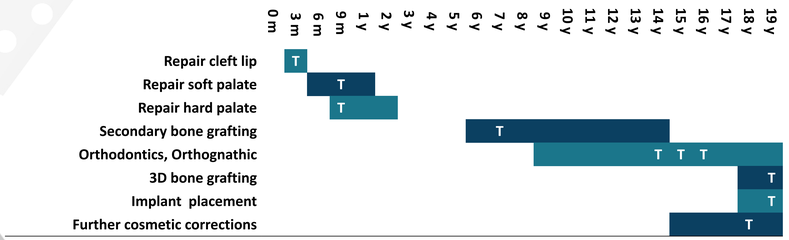
INTRODUCTION

Cleft lip and palate represent the second most frequent craniofacial congenital deformity, with an overall incidence of **1 in 700 live births**. The reported incidence of **missing teeth** in the permanent dentition in the cleft population is between **30% and 50%**, which is six-fold higher than in non-cleft subjects. Dental implants have been reported as a successful solution to restore the missing teeth in this kind of patient, but **clinicians face several challenges and failure** when placing them, so oftentimes **unconventional approaches need to be considered to achieve success**. The aim of this poster presentation is to report 4 cases of implant treatment done successfully in cleft palate patients and explain how each of them was approached though an individual and customized treatment plan and execution.

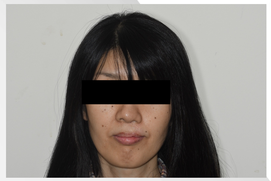
SEQUENCES OF TREATMENT



CHALLENGES

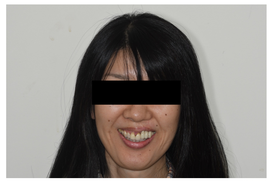
1- The blood supply is compromised.
2- Poor bone quality: Extensive bone deficiency. Remaining bone is dense and cortical.
3- The surrounding soft tissue is scarred due to multiple previous surgeries.

CASE 1: NASAL FLOOR ENGAGEMENT



1. Extraoral picture – 15 years f/u

2. Intraoral pictures



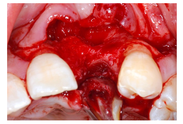
3. Smile picture : aesthetic failure

CASE 2: MINIMAL GBR

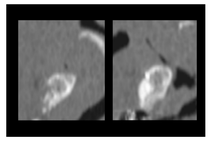
1. Initial picture

2. Presence of #9 in the cleft area

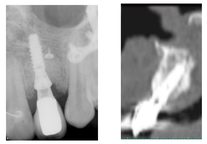
3. GBR design



4. Bone deficiency



5. CBCT before and after GBR



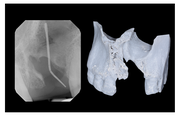
6. Implant placement #9

7. 10 years follow-up

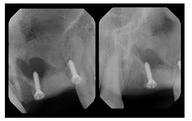
CASE 3: NARROW DIAMETER IMPLANTS AFTER BLOCK GRAFT FAILURE

1. Initial extraoral picture

2. Initial intraoral picture



3. Bone deficiency and oroantral communication

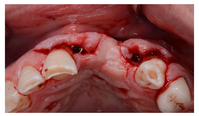


4. Block graft placement

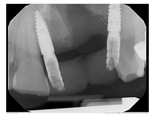
5. Failure. 3 weeks follow-up

6. Soft tissue after bone graft failure

7. Soft tissue reconstruction



8. Implant placement #8-9

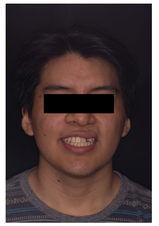


9. Temporary fabrication

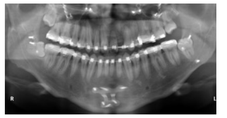
10. Intraoral view #8-9

11. Extraoral view #8-9

CASE 4: NARROW DIAMETER IMPLANT



1. Initial extraoral picture



2. Prior orthodontic treatment

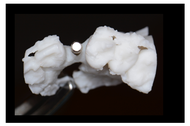
3. Extraoral views of absent #10

4. Corrected malocclusion

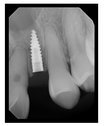
5. Intraoral views of absent #10

6. Corrected malocclusion

7. Bone availability M-D / 3D printed models



8. Bone availability B-L / 3D printed models



9. Implant #10

10. Temporary fabrication #10

11. Intraoral view of final crown #10

DISCUSSION

Challenges

1. **Blood supply** is compromised
2. **Soft tissue management**
3. **Bone gap characteristics**

Reasons

- Lack and quality of **mucoperiosteum**
- Presence of **scar tissue** due to previous surgeries
- Extensive bone **deficiency**
- **Zero wall** defect
- **Cortical** bone

CONCLUSION

1 The **results** are in most cases **compromised**
- 30% failure rate reported in the literature
- Aesthetic failure

2 **Non-conventional approaches** are usually needed
- GBR as minimal as possible (soft tissue)
- Narrow diameter implants
- Nasal floor engagement
- Pink porcelain may be needed

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