Facial Profile Support by Fixed or Removable Implant Superstructures

Introduction

Tooth loss and the resulting atrophy of the alveolar crest are causing loss of vertical height. A change in the profile with loss of the lip contour is recognized as sign for an old person.

Objectives

24 edentulous patients were analysed for the soft-tissue profile and phonation before and after implant prosthetic rehabilitation. 7 patients received a fixed reconstruction and 17 patients were treated with a removable bridge in the upper and lower jaw. The fixed superstructures were mainly restored on 8 or more implants in the maxilla and on at least 5 implants in the mandible. The removable superstructure were restored on 6 implants at the maxilla and 4 implants in the mandible.

Methods

The orthodontic profile analysis was used to determine the change of the position of the following points: Subnasale, Labrale superior, Labrale inferior, Stomium superior, Stomium inferior, Supramentale. As reference points Skin Nasion (WN) and Skin Pogonion (WP) were used after the determination of the bite. The analysis were performed with the WinCeph 4.19.1.13 software. For the statistical analysis SPSS 11.0 statistic software was used.

Prosthetic Design

<table>
<thead>
<tr>
<th>Subnasale</th>
<th>Stomium sup.</th>
<th>Labrium sup.</th>
<th>Stomium inf.</th>
<th>Labrium inf.</th>
<th>Supramentale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Removable prosthetics</td>
<td>Minimum</td>
<td>0.00</td>
<td>2.10</td>
<td>2.30</td>
<td>2.20</td>
</tr>
<tr>
<td>Maximum</td>
<td>3.00</td>
<td>8.00</td>
<td>6.80</td>
<td>9.50</td>
<td>10.80</td>
</tr>
<tr>
<td>Mean</td>
<td>1.12</td>
<td>4.45</td>
<td>3.99</td>
<td>5.55</td>
<td>5.97</td>
</tr>
<tr>
<td>Median</td>
<td>1.20</td>
<td>3.90</td>
<td>3.50</td>
<td>4.10</td>
<td>5.00</td>
</tr>
</tbody>
</table>

Fixed prosthetics
Minimum 0.30  2.10  2.30  2.20  2.00  1.00  
Maximum  2.30  6.00  5.70  7.80  7.50  3.50  
Mean  1.48  3.88  3.71  4.68  4.67  2.24  
Median  1.70  3.90  3.90  4.10  4.50  1.70  
**Total**  
Minimum  0.00  2.10  2.30  2.20  2.00  1.00  
Maximum  3.00  8.00  6.80  9.50  10.80  4.00  
Mean  1.23  4.28  3.91  5.30  5.59  2.19  
Median  1.60  3.90  3.50  4.10  4.75  1.90  

**Fixed Prosthetics**

**Removable Prosthetics**

- Individual mesiostructure for the fixation of the frame work
- Radiograph of fixed restoration on 10 FRIALIT®-2 implants in the maxilla
- Fixed superstructure with porcelain fused crowns and soft tissue
- Profile prior and after prosthetic rehabilitation
- Reconstruction on two bars with three implants each side in maxilla
- Bar reconstruction in mandible with four XiVE® implants
Conclusions

- After implant prosthetic rehabilitation in all cases the profile was developed ventral.
- Implant-borne superstructure leads to a support of the lip profile.
- The reconstruction with fixed restorations showed a reduced increase of the profile in comparison to the removable bridges.
- An individual resin base on the removable superstructure improves the vestibular contour.
- The phonation showed better results with the removable superstructures.
- Fixed bridges required more lab technician adaptations to achieve a acceptable phonetic and esthetic result.

Bibliography


This poster was submitted by Dr. Jörg Neugebauer.

Correspondence address:

Dr. Jörg Neugebauer
Kerpener Str. 32
50931 Köln
Germany