Abstract

- In the last few years Computer Guided Surgery has become one of the most popular treatment modalities. Some implant companies have developed their own implant guided surgery system.
- In this study we took the advantage of a single implant surgical drilling protocol (Nobel-Guide; Nobelbiocare Sweden) to compare two different implant systems with slight macro-design changes and a completely different titanium surface (Ti-Unite and SBM).
- This is a multicenter clinical study with four clinics and 6 clinicians involved. The group have selected 73 healthy patients to join the study. Selection criteria includes non smokers with good oral health and sufficient healing time after tooth extraction (min 3 months).
- After treatment planning, implants were placed following the same surgical and immediate loading protocol. Panoramic X Rays were taken the day of surgery and at intervals of 6, 12 and 18 months respectively.

Methods and Materials

- A total of 73 maxillary, partial or fully edentulous healthy patients were selected for the study.
- In each case one or two Nobelbiocare Replace implants (control) were randomly selected for placement in one or two locations. These implants were used to further stabilize the Surgical Guide with a Template abutment.
- The balance of the implants placed were Replant Implant Direct (test).
- All of them were placed following the same Nobel-guide surgical protocol and immediately loaded within 24-48h frame time. Panoramic X Rays were taken the day of surgery, and at 6, 12 and 18 months period.
- All the implants were tested to fulfill the success criteria given by Alberktsson of surgery, and at 6, 12 and 18 months period.

CONCLUSIONS

- The present experiment failed to prove that two different implants cannot have the same clinical behaviour when placed under the same surgical and loading protocol, random placement of two different implants side by side was done.
- A total of 73 surgeries was performed in four clinical centers with the biggest observation period of 29 months and the lowest being 3 months.

Results

- Of the 73 patients treated, 47 were women and 26 were men and a total of 421 implants were placed.
- The longest observation period was 26 months and the minimum was 3 months.
- A total of 9 implants failed from the 421 implants placed. 6 were Replace (Nobelbiocare) and 3 were RePlant (Implant Direct).
- The percentage failure rate is 2%, with all patients being able to wear their planned final prosthesis.

<table>
<thead>
<tr>
<th>Implant Type</th>
<th>Men/Women</th>
<th>NB % of failures</th>
<th>ID % of failures</th>
<th>Total % of failures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Replace</td>
<td>64%</td>
<td>2%</td>
<td>99%</td>
<td>1%</td>
</tr>
<tr>
<td>RePlant</td>
<td>36%</td>
<td>13%</td>
<td>87%</td>
<td>1%</td>
</tr>
</tbody>
</table>

References