Introduction
Dental implant placement in the posterior maxilla can often be complicated by pneumatization of the sinus, alveolar ridge resorption and the presence of low-density bone. The resulting lack of available bone for implant placement can be overcome by subantral augmentation (sinus lift) procedures. A tapered, multi-threaded implant with a modified mid-section of highly porous tantalum material (Trabecular Metal Dental Implants, Zimmer Dental Inc., Carlsbad, CA) has been developed to augment anchorage through osseointegration and bone ingrowth and new vascularisation inside its network of interconnected pores.

To evaluate the long-term clinical performance of TM implants, a five-year, multi-centre, Longitudinal Data Collection Program (LDCP) is currently being conducted in Europe. The study is ongoing in five countries across 22 sites including universities and private practices. The study complies with the Declaration

Placement of Porous Tantalum Trabecular Metal Implants in Sinuses Augmented with Mineralised Allografts:
Interim Results from a Single Centre
by Kim Bradbury, Carlo Maria Sorrenti, Shilpa Kottali
Zimmer Dental Inc., Carlsbad, CA; Brescia, Italy

Figure 1: A 70-year-old female patient presented to the clinic with an extremely atrophic maxilla. The plan was to install six implants (one TM implant in relation to the maxillary right first molar and five non-cylindrical implants (Zimmer, Tapered Screw-Vent). (a, b) A crestal window technique was used to perform the augmentation procedure (sinus lift). The sinus was augmented with a composite graft of 80 per cent cortical and 20 per cent allogenic bone chips (PorroB, Zimmer Dental Inc.). (c) Six months following the sinus lift, the TM implant was placed. (d, e) Radiographic view post implant placement. (f) The implant was uncovered after three months of healing and subjected to 25Ncm of counter torque to evaluate stability. A healing collar was placed over the implants and allowed to heal for an additional three months. (g) A zirconia abutment was then placed for provisional restoration. (g) Radiographic view at the annual follow-up. (h, i) Radiographic and clinical views of the implant at the second annual follow-up. Implants were stable and without complications at this visit. The patient received a definitive full arch restoration at this visit.
USER REPORT

Table 1. Demographics and Implant Design Summary

<table>
<thead>
<tr>
<th>Patient Age (Years)</th>
<th>Average</th>
<th>Minimum</th>
<th>Maximum</th>
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<tbody>
<tr>
<td></td>
<td>57.11</td>
<td>38</td>
<td>71</td>
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<tr>
<th>Implant Design</th>
<th>Diameter (mm)</th>
<th>Length (mm)</th>
<th>Collar Surface Finish</th>
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<tbody>
<tr>
<td></td>
<td>4.1 (n=4)</td>
<td>10 (n=2)</td>
<td>Machined (n=1)</td>
</tr>
<tr>
<td></td>
<td>4.7 (n=17)</td>
<td>11.5 (n=19)</td>
<td>Textured (n=20)</td>
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Hence, the implant survival is 100 per cent (n = 20/20). The average bone level change from implant placement to one-year follow-up is 0.65 ± 0.56 mm.

Conclusions
Within the limitations of this case series:
- Placing TM implants into grafted sinuses resulted in a high level of predictability.
- There appears to be no difference in implant survival between healthy and elevated risk patients within this sub-group.

References
3. Images courtesy of Dr. Carlo Maria Soardi, Brescia, Italy.

About the Authors

Dr. Carlo Maria Soardi graduated in Medicine and Surgery from Università degli Studi di Milano (Italy) in 1979. Since then, he has been practising at the Maxillofacial Surgery Department of Ospedali Civili di Brescia, where he has been performing minor oral surgeries, traumatology, orthopaedic and maxillofacial oncology surgeries. Dr. Soardi took part in conventions and courses both in Italy and abroad, publishing scientific works on pathologies of the oromaxillofacial region. Since 1990, he has been dedicated exclusively to his private practice, focusing on oral surgery and implantology.

Dr. Shilpa Kottalgi worked as a Clinical Project Lead at the Clinical Affairs Department of Zimmer Dental. She holds a Bachelor of Dental Surgery degree from India and a Masters in Clinical Research from the University of California, San Diego (USA). She is also a certified clinical research associate (with CCRA certification). She currently works on sponsored clinical studies and investigator-initiated studies in USA and Europe with her main focus on Trabecular Metal Dental Implants.

Kim Bradbury, BS, CCRP received her Bachelor of Science degree in Biology from the University of Santa Clara (USA). She has over 20 years of research and development experience in the areas of cell biology, immunology and molecular biology. She is currently a Clinical Project Lead at the Clinical Affairs Department of Zimmer Dental.