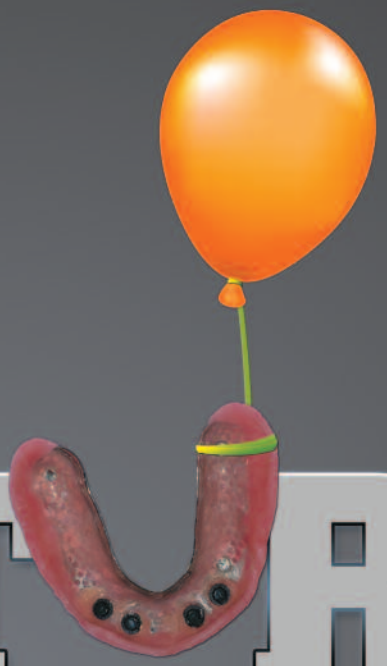

Raising Your DENTURE PATIENT To a Higher Standard

by Ara Nazarian, DDS, DICOI

As the Baby Boomer population ages, the numbers of edentulous and partially edentulous patients are increasing, since tooth loss and age are related. Whether it is due to neglect, caries, medications or other systemic reasons, patients are presenting to practices all over the country needing extractions that can eventually lead to full dentures. Once converted to dentures, these patients have concerns of ill-fitting or loose dentures and the inability to eat or function as they once did with teeth. Because of these concerns, it is important to incorporate some type of implants into the plan. Implants, whether small or traditional width, allow patients with dentures to eat and function much more naturally.

Case Study

A patient of record in his early 60s presented to our office wanting implants placed in his upper arch for denture stabilization. A few years prior, I had placed implant-supported fixed bridges on the lower arch from #18-#30 since he was dissatisfied with his previous lower complete denture. Recently, it became financially possible for him to have an implant-supported maxillary overdenture.

Palpation and radiographic examination revealed a moderately sized maxillary ridge in the anterior portion (Fig. 1) that would provide sufficient height and width for implants. However,

Fig. 1: Pre-operative retracted occlusal view

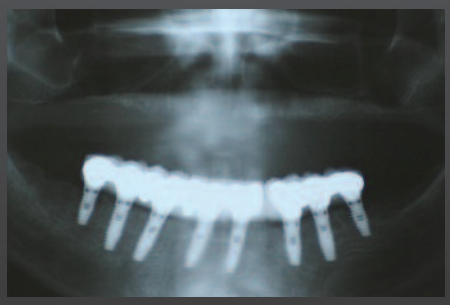

Fig. 2: Pre-operative panorex

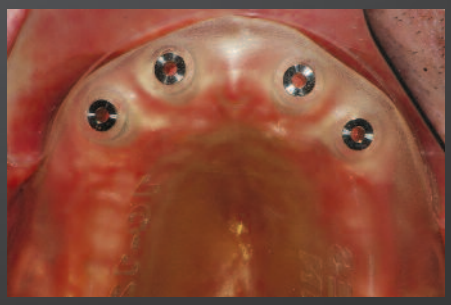

Fig. 3: CT-based surgical guide

in the posterior sections there was insufficient bone due to the pneumatization of the sinus cavities (Fig. 2).

All risks, benefits and alternatives regarding various treatments were discussed with the patient. After a thorough discussion of treatment options, the patient decided he would like to have four implants placed in his pre-maxilla region with Locator (Zest) attachments retaining a metal-reinforced palate-free maxillary denture.

A CBCT scan was taken to accurately treatment plan this case to make certain that no complications would arise from the conservative non-flap approach of placing the dental implants. Blue Sky Plan software (Blue Sky Bio) was used through Glidewell virtual assistance (Dr. Brad Bockhurst) to precisely plan the placement of four 3.25mm x 12mm TSI (OCO Biomedical) dental implants in the anterior portion of the pre-maxilla area. Once the surgical guide and new denture (Glidewell Dental Lab) was received in our office and tried in for verification of proper fit, the area was anesthetized using 1.8ml 4% Septocaine (Septodent) with 1:100,000 epinephrine. Using the surgical guide provided by Glidewell Dental Lab (Fig. 3), the site for the implant was begun with a 2mm pilot drill utilizing the Mont Blanc surgical handpiece and Aseptico surgical motor at a speed of 1200rpm with copious amounts of (90%) sterile saline irrigation.

Fig. 4: TSI Dental Implant kit

The pilot drill was advanced to a depth of 15mm measuring from the tissue surface. This additional 3mm was the same depth of the tissue height to bone. Paralleling pins were then placed in the site of the osteotomies to confirm the accuracy of the surgical guide and a panoramic X-ray was taken to check the angulations of the pins within the maxilla. Using a rotary tissue punch, an outline was created over the initial osteotomy and the tissue plug removed with a serrated curette (Zoll-Dental). A final osteotomy former, included in the (OCO Biomedical) implant kit (Fig. 4) was used to shape the osteotomy sites for the implants. Once the osteotomy sites were completed, an implant finger driver was used to place the dental implants until increased torque was necessary. The ratchet wrench was then connected to the adapter and the implants torqued to final depths reaching a torque level of about 50-60Ncm.


Fig. 5: Zest Locators placed on implants


Fig. 6: Zest Locator housings with block outs

"By providing multiple services in a shorter number of visits under one roof, the dental provider will find more patients who will accept treatment."

Having the ability to immediately "osseofixate" due to their proprietary design, I prefer OCO Biomedical's TSI dental implants when considering progressive or immediate loading with the Locator (Zest) overdenture attachment system (Fig. 5). Some of the advantages of the Locator (Zest) attachment system include a self-aligning feature, dual-retention and one of the lowest implant attachment profiles available. In other words, the self-aligning ability of the Locator (Zest) attachment aids patients in positioning their prosthesis so that it can be properly seated without damage to the attachment components.

Free-standing attachments like the Locator (Zest) used to retain overdentures provide numerous advantages, including enhanced aesthetics, phonetics, ease of maintenance and simplified hygiene. This type of prosthesis is primarily tissue-borne with the implants providing retention and stability.

Utilizing a marking stick (Dr. Thompson's Marking Sticks), we identified the areas in the denture that would require removal for the overdenture housings (Fig. 6). Once relieved, Quick Up Test C&B silicone (VOCO America) was injected into the overdenture recesses. The overdenture was seated over the attachment caps and the Quick Up Test C&B (VOCO America) was allowed to set before the overdenture was removed. Any interference that was detected between the denture base and attachments was checked and eliminated.

continued on page 22

Fig. 7: VOCO Quick Up placed in recesses

Fig. 9: Palate-free denture snapped into mouth

Fig. 8: Zest Locator housings picked-up in denture

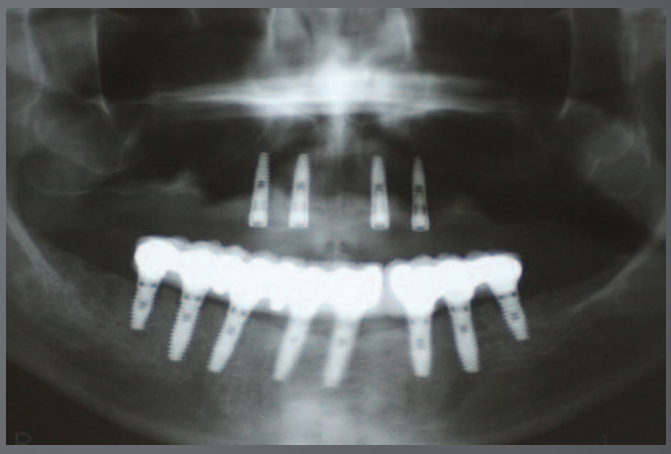

Fig. 10: Post-operative panorex

Quick Up Adhesive (VOCO America) was painted into the overdenture recesses to enhance retention between the denture base and the material. Petroleum jelly was applied to the surrounding surfaces of the denture to prevent unwanted adherence of excess resin. Quick Up luting resin (VOCO America) was then injected about two thirds of the height of each recess (Fig. 7) and the overdenture was seated. The prosthesis was gently held in place by hand and after a total of three minutes, the overdenture with the incorporated caps was removed. Slight voids around the caps or in the access openings were filled with QuickUp LC (VOCO America), a matching light-cured flowable composite resin (Fig. 8). At the completion of the prosthetic phase, the patient stated how pleased he was to be able to smile again without the prosthesis falling out (Fig. 9). The post-operative panorex view (Fig. 10) depicts the accuracy of using a CT-based surgical guide when placing multiple implants.

More and more patients are presenting to dental practices requiring this type of reconstruction. By providing multiple services in a shorter number of visits under one roof, the dental provider will find more patients who will accept treatment. In doing so, dental providers will be helping their patients get to proper form, function and health. ■

Author's Bio

Dr. Ara Nazarian maintains a private practice in Troy, Michigan, with an emphasis on comprehensive and restorative care. He is a diplomate in the International Congress of Oral Implantologists (ICOI). His articles have been published in many of today's popular dental publications. Dr. Nazarian is the director of the Reconstructive Dentistry Institute. He has conducted lectures and hands-on workshops on aesthetic materials and dental implants throughout the United States, Europe, New Zealand and Australia. Dr. Nazarian is also the creator of the DemoDent patient education model system. He can be reached at 248-457-0500 or at the website www.aranazariandds.com.