SMILES in the SPOTLIGHT

LEADERS IN NORTH TEXAS DENTISTRY
CREATING UNFORGETTABLE SMILES

Dr. Stephen Bass

CREDENTIALS
Diplomate of the American Board of Periodontology
Fellow of the Institute for Advanced Laser Dentistry

EDUCATION
BS, Biology - Southwestern Univ., Georgetown, 1985
DDS - UTHSC, San Antonio, 1990
MS / Periodontal Certificate - UTHSC, San Antonio, 1993

PROFESSIONAL AFFILIATIONS
Dallas County Dental Society
Texas Dental Association
American Dental Association
Texas Society of Periodontists, President, 2003
Southwest Society of Periodontists, President, 2011-2012
American Academy of Periodontists

Maxillary Sinus Lift and Dental Implant Placement

A 56 year old white female presented to my office for evaluation of a missing first maxillary molar in site #3. She was interested in replacing this missing tooth with a dental implant. The tooth had been extracted about 6 months prior to her examination due to endodontic failure. Medical history was positive for hypertension and codeine allergy. Dental history revealed a periodontally stable patient that was receiving regular recall cleanings in her general dentist's office.


Pre-treatment


Pre-treatment buccal view


Pre-treatment occlusal view


Surgical guide in place

CLINICAL EVALUATION

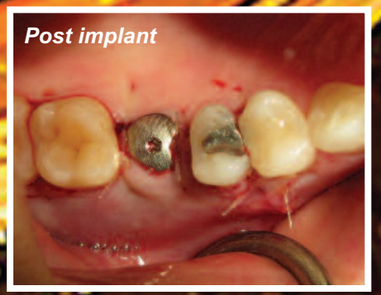
Clinical evaluation of the site revealed adequate bone width and interproximal space for placement of a dental implant. A periapical radiograph demonstrated only 6mm of bone height from the crest of the alveolar ridge to the maxillary sinus floor. In order to place an implant of adequate length, a maxillary sinus bone augmentation would be necessary. With the existing 6mm of bone height, the implant and the maxillary sinus augmentation could be performed simultaneously. Since the maxillary sinus has limited blood supply, the sinus augmentation bone graft would be combined with Platelet Rich Plasma (PRP) to enhance the healing and maturation of the bone graft. The patient provided consent, impressions were taken for fabrication of a surgical guide and then she was scheduled for her surgical procedure.

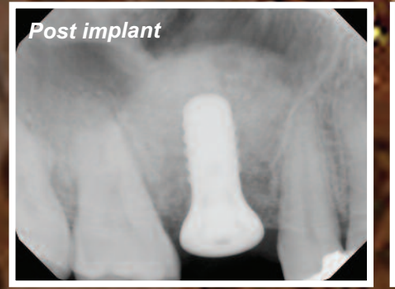
PROCEDURE

At the time of her surgery, pre-procedural rinse with chlorhexidine was performed for one minute and then local anesthetic was provided. A 20cc venous blood draw was performed from her right arm and the PRP was prepared using the manufacturer's guidelines. Crestal and sulcular incisions were made from teeth #2-5 with a vertical releasing incision on tooth #5 disto-buccal. A full thickness flap was reflected. A lateral window osteotomy was created using a large round diamond bur. After accessing the sinus membrane, the soft tissue membrane was reflected from the sinus floor using specially designed sinus lift elevators. When adequate reflection of the sinus membrane was confirmed, a bone graft of combined Bio-Oss (bovine bone) and Mineralized Freeze-Dried Bone Allograft (human cadaver bone) were combined with the PRP. This bone graft mixture was incrementally placed into the sinus osteotomy. The surgical guide was then placed on the teeth and the implant osteotomy was drilled to 6mm to the level of the sinus floor. A Straumann wide neck/wide body tissue level implant was placed with good engagement. The sinus osteotomy was then packed further with bone graft to achieve good fill. A collagen resorbable membrane (Bio-Guide) was placed over the lateral window osteotomy and remaining PRP was applied over the wound. Closure was obtained with 4-0 and 5-0 chromic gut sutures. Oral and written post-operative instructions were provided.


Sinus osteotomy window


After sinus bone graft


Post implant


Post implant


Final restoration


Permanent crown in place

RESULTS

The patient was followed for multiple post-operative visits and uneventful healing was observed. At the 4-month follow-up, a periapical radiograph was taken to confirm adequate bone density and the patient was released for the restorative phase. The abutment placement was coordinated with the patient's general dentist. The abutment was placed and torqued to the appropriate force. The patient was then sent to her dentist's office for the abutment impression and placement of a temporary cap over the abutment. The crown was then placed by the general dentist when it was returned from the dental laboratory. The patient was seen for a final radiograph and photograph about 6 weeks after abutment placement. She will resume regular dental cleanings with her general dentist and with radiographs on an appropriate interval to diagnose decay and to monitor the bone stability around the implant.


Final result

For more information concerning this case, contact Dr. Bass at Dental Implant & Periodontal Partners, LLP by calling (972) 612-2040 or visit www.implantperioteam.com.