

The Citagenix Clinical Report

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Immediate Implant Placement and Sinus Lift with Simultaneous Guided Bone Regeneration

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This case study demonstrates immediate placement of implants in conjunction with a sinus elevation procedure utilizing a bone graft substitute.

A 45 year old female patient was referred by her primary dental provider to evaluate missing and decayed dentition in the posterior maxillary right quadrant. Clinical and radiographic examination demonstrated decay and fracture of tooth #2 (17-FDI two-digit notation) with failed endodontic therapy; region #3 (16) was edentulous; and tooth #4 (15) had a fractured crown with a retained endodontically treated root. The patient had a history of first premolar extractions x 4 with orthodontic treatment as a child. Prior medical history was unremarkable, and the patient is a non-smoker. Under IV sedation and profound local anesthesia, tooth #2 and #4 were extracted carefully without difficulty (Figure 1). Following extraction, access was created through the lateral maxillary sinus wall

preserving the integrity of the sinus membrane. The membrane was carefully lifted off the sinus floor. Straumann Standard Plus implants were placed into sites #2 and #4 successfully with nice angulation and orientation and good primary stability (Figure 2). DynaBlast™ (Citagenix Inc., Montreal, Quebec) bone graft substitute was placed around the coronal aspect of the implant in position #2 to fill the void between the socket wall and the implant. DynaBlast was also placed around the implants in positions #2 and #4 where they extended through the maxillary sinus floor (Figure 3). Primary closure was achieved without complication.

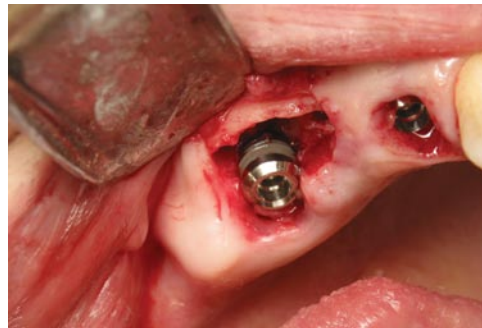
Immediately after implant and DynaBlast placement, a radiograph was taken. With the DynaBlast comprised of demineralized bone, cancellous chips and RPM (reverse phase medium - a bioresorbable carrier that demonstrates increased viscosity with increased temperature), the radiograph ini-

tially demonstrated a radiolucency where the bone graft material was placed (Figure 4). Although there is a mineralized component to the graft material, the site will remain relatively radiolucent. The graft site will increase in radiodensity during healing, thereby providing a radiographic indicator of bone growth. The patient returned after one week without complaints and demonstrated excellent soft tissue healing.

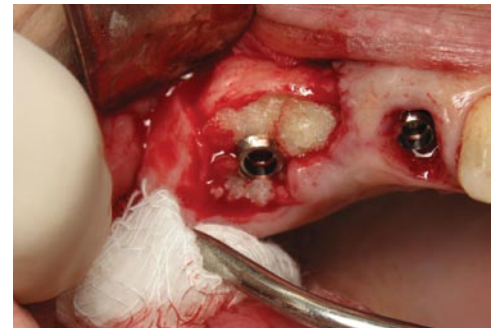
After 8 weeks, a follow-up visit also demonstrated excellent soft tissue healing. Radiographs showed radiodensity around the implants both coronally and apically, which is consistent with bone regeneration due to the graft material at both implants sites #2 and #4 (Figure 5). Based on the progression of increased opacity of the bone grafted regions representative of bone regeneration over the healing interval, stage two of implant placement was completed with 4 mm solid abutments torqued to 35 Ncm.



1. Sites #2 and #4, post extraction



2. Successful Implant Placement at #2 and #4



3. DynaBlast placed around implants



4. Radiograph taken immediately post-surgery with implant and DynaBlast placement



5. Radiograph at 8 weeks demonstrating new bone growth