

Initial Report of 44 Consecutive Cases of Immediate Maxillary Molar Replacement

Peter Hunt, Chris Furlan, Peter Flaherty, Silvy Bergler and Laura Ceccacci
Philadelphia, Pa. USA

Dr Peter Hunt : peter.hunt@DrPeterHunt.com

Introduction

Traditionally, failing maxillary molars are extracted, then allowed to heal before implant placement. Considerable loss of alveolus frequently accompanies this. Therapy is lengthy and multi-staged. We wanted to know if might be possible to speed the therapy and reduce the loss of alveolus by placing implants immediately following the extractions.

Aims

To see if immediate implant placement in maxillary molar extraction sites was feasible. To assess whether the implants osseointegrated. To see the change in form of the alveolus in the region. To assess the time for therapy compared with the conventional protocol. Patient and referring dentists responses to the therapy were also assessed.

Materials and Methods

Over the study period of two years, 53 consecutive cases presented or were referred for implant replacement of maxillary molars. All the patients received a clinical examination, a periapical radiograph and CBCT assessment. The teeth were removed by sectioning and removal of each individual root. The situation was then assessed to see if it was possible to stabilize an implant in the desired position.

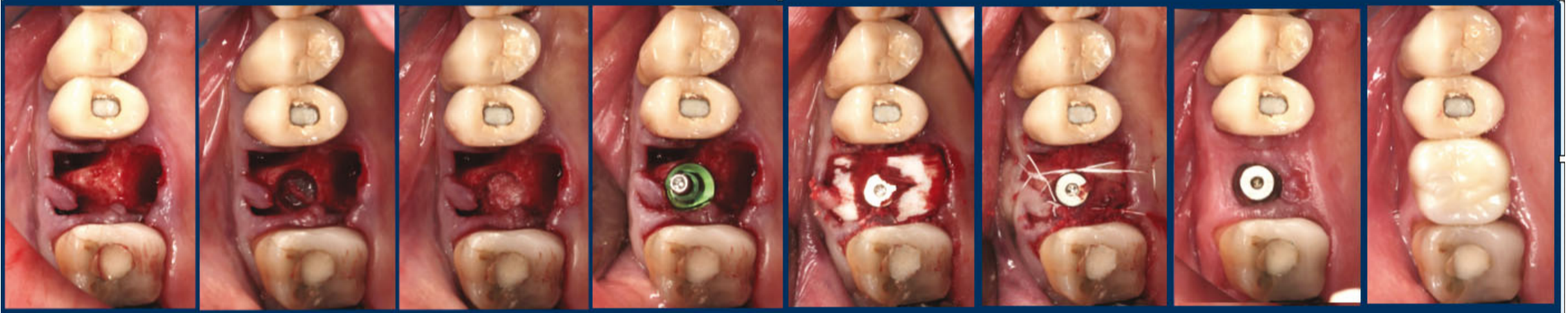
Procedure

Nine sites were determined not suitable for immediate implant therapy because it would not be possible to stabilize an implant. All these received socket augmentation. The 44 remaining sites were treated with immediate implant placement with concurrent augmentation.

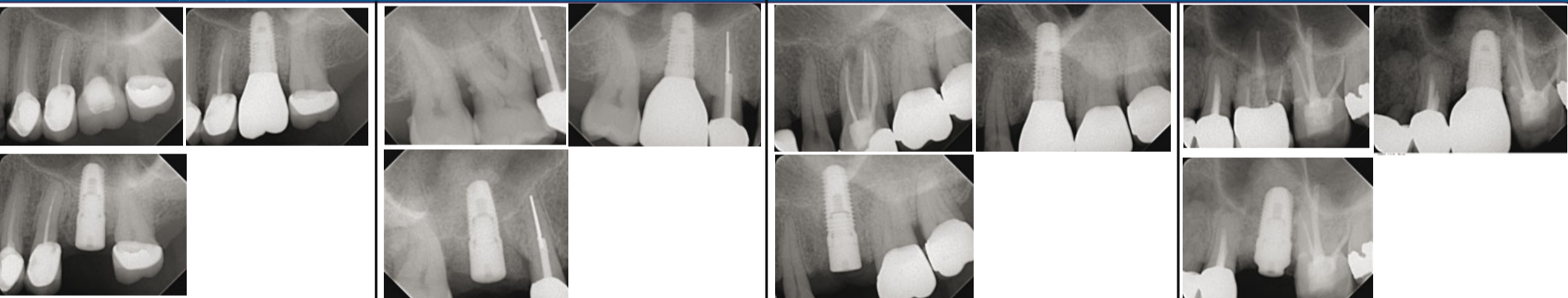
Each site received a Camlog® Promote Plus implant, generally a 5.0 x11.0mm. Stabilization for the implant was provided in either the tri-furcation region, apical bone or in the sinus floor with an intentional sinus lift.

A Camlog® 4.0mm Cylindrical gingivaformer was placed in the implant. Bio-Oss Collagen® [Geistlich] was then used to augment the residual root spaces as well as deficiencies between the socket walls and the implant. In most cases, a Mucograft® Membrane [Geistlich] was sutured to cover the socket.

The cases were assessed with pre- and post-placement radiographs. A final radiograph was taken at three months when the case was returned for restorative therapy. When possible a radiograph was taken at the time of restoration insertion and one year post-therapy.



Typical case in the maxillary molar replacement series : the tooth was failing from periodontal problems, furcation involvement and endodontic breakdown. The implant was stabilized in the residual furcation bone. A sinus floor elevation was performed as part of the procedure.



Discussion

Of the 44 cases with immediate implant replacement, one failed early from low stability. The remaining 43 implants were followed for three months and then restored in our clinic or returned to their restorative dentist. Healing was generally uneventful. In all cases the healing cap was exposed at the three month stage and this made it easy to access and remove for an implant restoration. Effectively this was a one-stage surgical protocol which made for considerable savings and costs, as well as shortening the healing time.

Results

Of the 44 maxillary molar replacements all but one case required a sinus lift at the time of implant placement. This was often provided intentionally to provide additional Primary Stabilization for the implant. With the healing of the Sinus Lift portion then Secondary Stabilization was provided.

Bone fill in the Socket Regeneration portion also contributed to Secondary Stabilization and osseointegration of the implant.

Conclusions

1. Maxillary molar extraction + implant immediate placement + internal sinus lift procedure + socket regeneration can be accomplished in a single procedure.
2. Immediate implant maxillary molar replacement procedures using the protocols described above have a very high success rate.
3. Time from procedure to release for restorative therapy was in the region of four months. Restorative procedures often took longer than initial healing.
4. This immediate replacement protocol generally seemed to preserve the alveolar supporting complex better than the traditional two- or three- stage protocol [extraction, implant placement, implant uncovering].
5. Both patients and referring dentists greatly appreciated the faster, less invasive, single-stage protocol.
6. Because of the reduction of surgical procedures, this single-stage replacement protocol was very cost effective.