Adverse Sequelae in a Series of 86 Cases of Immediate Molar Implant Replacements

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Introduction

Surgically intensive procedures can be difficult for the patient to tolerate and to recover from. In 86 consecutive patients who received immediate implant placements following the extraction of maxillary or mandibular molars, we wanted to know if their post-therapy healing was eventful and if there were any particular adverse sequelae.

Criteria for inclusion

All patients in the Immediate Molar Implant Replacement series were included in the evaluation and follow-up.

Procedure

The patient records from initial evaluation through to patient discharge were reviewed. Patients with particular problems of discomfort or in healing were identified and assessments of the significance of the issues were then ranked.

All patients were telephoned the evening of their procedure to assess their level of post-operative pain, swelling, paresthesia and control of bleeding in the operation site.

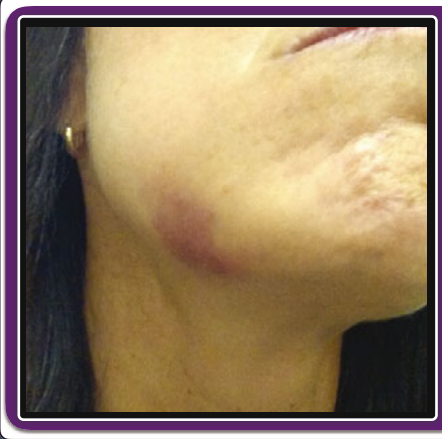
Procedure

Unless there were particular issues, the patients were then seen two or three weeks following the procedure for suture removal, wound debridement and instructions on oral care and pain management during the healing period.

If a particular issue was identified then recommendations concerning management of that issue was discussed with the patient and care and medications were prescribed as necessary.

The end of active therapy was regarded as the time when the implant was stable and healed sufficiently for restorative therapy to be instituted. This was provided either in our facility, or for referred patients with their own restorative dentist.

Where possible a post-restoration radiograph was taken at the time of restoration insertion or shortly following. Later evaluations will be conducted on a yearly basis.

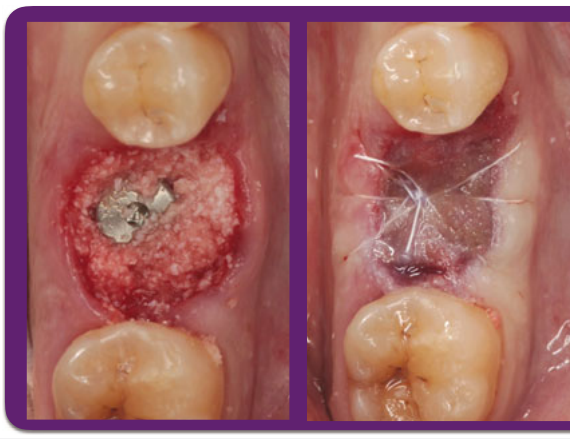


Hematoma formation

This was found in only one case.

There had been a Buccal Wall defect at the time of extraction.

This had been repaired with a sub- periosteal membrane down the buccal wall with augmentation.



Post-Surgical Bleeding

Bio-Oss Collagen has a natural haemostatic effect.

The wound was closed over with a Mucograft® membrane and sutured.

On the surface of the membrane a cyanoacrylate tissue glue was applied. Post-surgical bleeding was not a factor.

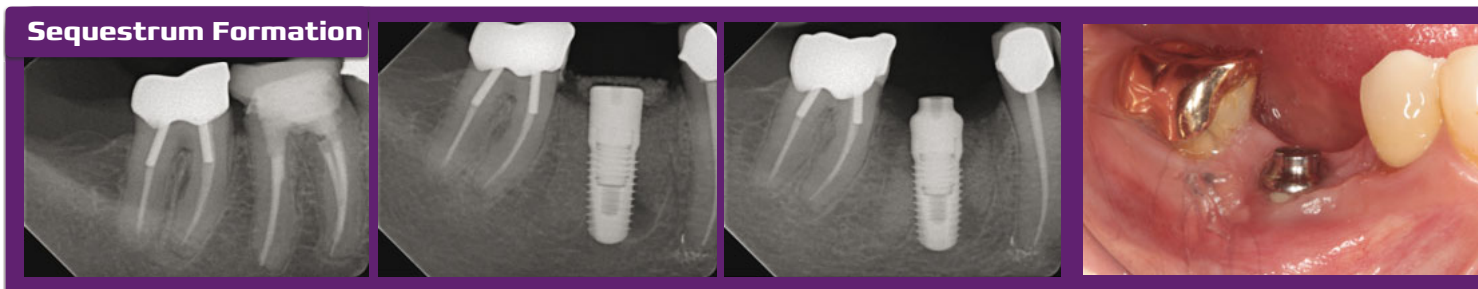
Post-Surgical Pain

This was not a major factor.

Generally the region was uncomfortable for 1-2 days and was controllable by the use of double doses of Aleve®.

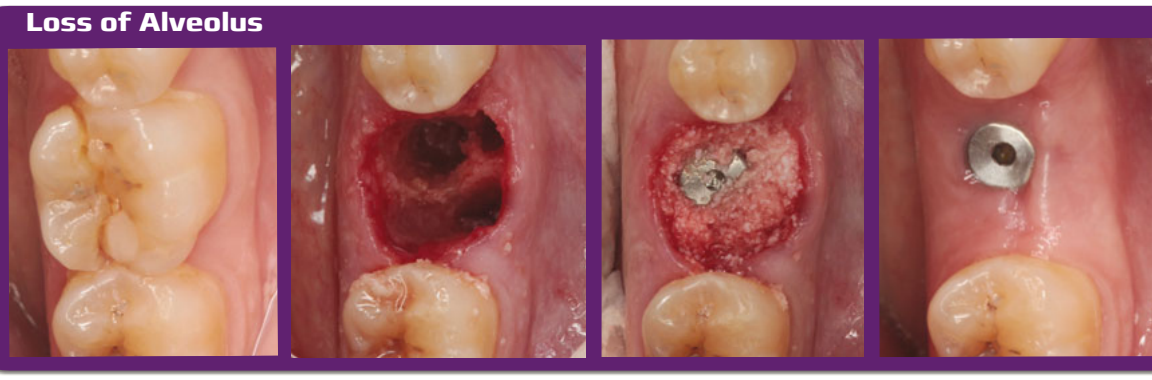
The region remained tender for a week or so more.

Sequestrum Formation



Three cases had sequestrum formation, two on the mandibular labial and one on the maxillary palatal. These probably came about as a result of the extraction and could not be attributed to the implant procedure. This was the most severe case, and it healed with a lower labial margin. The patient was unconcerned.

Loss of Alveolus



All cases had some shrinkage of the alveolar complex, but this was notably less than found in a traditional two-stage protocol (Extraction, healing for three months, implant placement).

This can largely be attributed to this being a "**Closed**" rather than an "**Open**" wound procedure. Also to the use of a slow resorbing bone graft material (Bio-Oss Collagen®) as the regeneration material used about the implant.

Discussion

Implant survival was excellent. Only one implant in the series was lost due to lack of initial stability.

Adverse sequelae were restricted to very few cases. In general, four types of problems were identified: post-operative pain, swelling and bruising, bony sequestrum formation, and alveolus deformities. None of these were serious nor did they affect survival of the implant.

Results

1. Adverse sequelae were limited, did not cause loss of the implant and were usually rapidly resolved.

2. The most serious problem was with sequestrum formation in three cases which were probably related more to the extraction process rather then the implant placement.

   When the sequestrum was removed the region healed well, although with some loss of alveolar height, but this was not significant to the patients.

3. Loss of alveolar height was assessed at the time of implant impression by comparing the gingival margin height about the implant to that seen on the adjacent teeth. Generally the loss of height was in the range of 1-3mm. Patients were not concerned about this issue.

   This was considerably less than is seen about implants placed in a conventional 2- or 3-stage protocol.

Conclusions

1. Immediate molar replacement can have a high rate of success.

2. The surgical protocol is not as complex as most doctors imagine.

3. It saves multiple surgical interventions, speeds therapy and reduces costs considerably.

4. Patient and referring dentist appreciation of the therapy is very positive.