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situation at beginning



TREATMENT PLAN

Stage 1. After the extraction and provision of a temporary prosthesis, the region was allowed to heal naturally for three months.

Stage 2. An autologous bone block taken from the mandibular angle was fitted in carefully and secured using micro titanium osteosynthesis screws.

Stage 3. Three months after the augmentation, a Camlog Screw-Line implant was placed. A subepithelial connective tissue graft taken from the palate was placed in the crestal region before primary soft-tissue closure over the implant was performed.

Stage 4. Three months later, the implant was exposed and progressive expansion of the soft tissue orifice was achieved by using a bottleneck gingivaformer, then a straight one and finally a wide body gingivaformer. This was followed by a final abutment and all-ceramic restoration.

DISCUSSION

Generally speaking, there are two alternative modes of managing a defect of this complex nature. First, a "Guided Bone Regeneration" procedure using autologous or allograft bone materials contained in resorbable or non-resorbable membranes. Second, a bone block procedure using bone harvested from a secondary intra-oral site. In this case, the bone block procedure was chosen because it was felt that this would better re-establish the desired form at the crest of the alveolus and around the lateral incisor.

final result



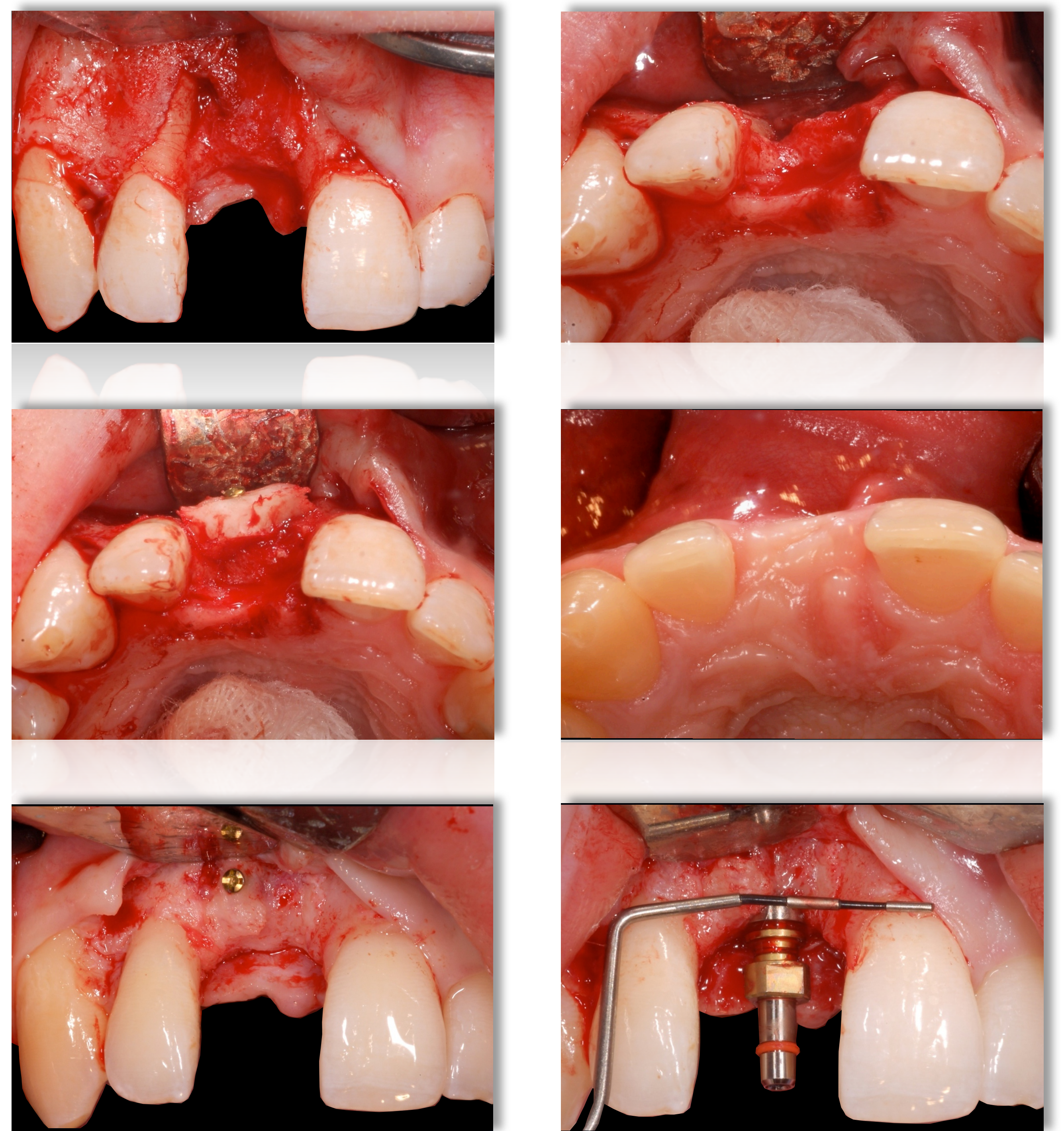
INTRODUCTION

The patient suffered trauma to his maxillary anterior teeth at nine years of age. As a result, apexification and then root canal therapy was performed and the tooth was restored with an all-ceramic crown.

In 2010, at the age of 21, the patient presented with an abscess in the maxillary anterior region. A periapical radiograph with a gutta-percha point in the fistula showed extensive bone loss spreading from the central to the lateral incisor. Although his lateral incisor was tender to percussion and mobile (grade 2), it responded to vitality testing.

A fracture down the long axis of the central incisor was diagnosed. The abscess was drained, then the tooth was removed carefully. When the socket was being debrided, it was apparent that the labial bone wall was missing completely. Accordingly, a four-stage regeneration-to-implant protocol was planned.

staged treatment plan



CONCLUSION

In a young and healthy patient the potential for regeneration in defects like the one seen here can be considerable, providing the situation is managed correctly. It starts with getting rid of the source of the infection and allowing complete healing in the region. It continues with reconstructing the alveolus. With re-building procedures of any sort some resorption of bone during healing is inevitable, so "over-building" is necessary at the outset. Because of this, it is advisable to not place the implant at the same time. The implant is placed only when the bony alveolus has stabilized. Sometimes minor recontouring and/or soft tissue enhancement is also necessary at this time.

Although the case took a considerable amount of time, and several procedures to bring to conclusion, a stable and aesthetic result was provided. Considering the poor situation at the beginning and the severe bone loss at the lateral incisor, re-establishing not only of a vital bone housing for the implant, but also achieving new periodontal structures for the lateral incisor was not an easy task. In the view of the author, results like this can only be achieved when using vital bone block augmentation.

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