The use of osseointegration to stabilize a surgical elongation of the maxilla: A case report

Osseointegrated implants placed prior to maxillary downgrafting were utilized to stabilize the repositioned maxilla and interpositional bone graft. Eleven-month follow-up revealed complete healing of the 1.5-cm osteotomy gap and no maxillary relapse. Implant stabilization may be one solution to the relapse associated with inferior repositioning of the maxilla. (Int J Adult Orthod Orthognath Surg 1992;7:235-243.)

Introduction

Vertical elongation and inferior repositioning of the maxilla are prone to severe relapse.1-5 Rigid fixation has not eliminated the problem, which is not surprising, because all current methods of fixation (screws, plates, wires, or pins) have the potential of moving through bone. The use of autogenous and allogeneic bone grafts or hydroxyapatite in conjunction with different forms of fixation, myotomies, and preoperative bite-opening splints have not resulted in predictable stability.1-6

Because an implant, if osseointegrated, does not move through bone,7 one of the authors (WHD) suggested the use of this principle, as applied in the following case.

Case report

In late 1984, a 49-year-old physician presented for orthodontic diagnosis. His chief complaint was that occlusal and periodontal problems were developing because of his malocclusion. He wanted to save his teeth.

The patient had a significant brachyfacial appearance with insufficient vertical dimension and obvious overclosure of the mandible. Facial expressions were compromised on the right side by residual Bell's palsy. The lack of facial vertical dimension and overclosure of the mandible were the result of maxillary anteroposterior and vertical insufficiency. All four lateral incisors were missing, and there were no residual spaces. Significant anterior crowd-