Implant Placement in Three-Dimensional Grafts in the Anterior Jaw

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A series of 12 men and 13 women ranging in age from 24 to 71 years underwent two- or three-dimensional reconstruction of type C, D, or E ridges and placement of anterior implants. The mean horizontal augmentation was 6.4 mm (range 2 to 17 mm), and the mean vertical augmentation was 4.22 mm (range 0 to 15 mm). The 67 implants were all loaded, with the time averaging 34.4 months for the maxillary implants and 19 months for the mandibular implants. None of the implants have been lost to date. Two patients had flap retraction within the first 2 weeks that necessitated reapproximation. One patient had total failure of a J graft of iliac crest bone from the maxillary left central incisor to canine starting 3 weeks after placement as the result of infection. The graft was removed at 6 weeks, and no implants were placed. Two patients suffered partial anterior graft loss, but their implants were successful in location and angulation. Implants and grafts can be combined with acceptable rates of complications and failure. (Int J Periodontics Restorative Dent 2001;21:357–365.)

The initial use of osseointegrated dental implants was in the anterior edentulous jaw, with the goal being simply to provide function. However, many patients who could have benefited from implants were not eligible to receive them because of extensive bone resorption; in others, even though implants could be placed, the outcome was not esthetically and phonetically satisfactory. To improve the results, oral surgeons began to perform hard tissue grafting in conjunction with implant placement.1-5 Commonly, grafting and implant placement were simultaneous, with the implants being used to fix the graft to the residual ridge.

Today, an implant-based reconstruction is expected to restore the patient's original appearance and to correct phonetic deficiencies caused by loss of teeth and oral tissue, as well as to provide function. Creation of such an optimal reconstruction often necessitates correction of deficiencies of the hard and soft tissues (Fig 1). During the last 10 years, 67 patients underwent ridge reconstruction in connection with the placement of osseointegrated