A 17-year-old female with congenitally missing maxillary lateral incisors (teeth #7 and #10) was referred for consideration of dental implants. Clinically, the alveolar ridge were narrow on both the right and left sides because the normal eruption process of the permanent lateral incisors did not occur, resulting in underdevelopment of the alveolar bone. As a result, grafting was performed in preparation for implant placement.

Augmentation of a Congenitally Deficient Ridge Utilizing a Composite of Allograft and Xenograft Hard Tissue Material

Dr. Cary A. Shapoff, Diplomate, American Board of Periodontology, Fairfield, CT

Before the procedure, a CBCT radiologic study demonstrated a 4mm wide alveolar ridge on the right side. A full thickness mucoperiosteal flap was raised on the facial surface with a vertical releasing incision distal to tooth #6. The existing ridge was first split using a Piezotome blade and then widened using a series of hand-held elliptical ridge expanders. Onlay grafting was performed on the facial dimension using a composite graft of MinerOss® and MinerOss® X covered with a collagen barrier (Mem-Lok® RCM) to further expand the ridge. A perioisteal releasing incision was used to obtain tension-free closure. The incisions were closed with 6-0 propylene and maintained for 3 weeks. A CBCT at 7 months post-op, shows excellent ridge augmentation with expansion of the buccolingual dimension from 4mm to 7mm.

Before the procedure, a CBCT radiologic study demonstrated a 3mm wide alveolar ridge on the left side. Following flap elevation and decortication of the facial surface of the alveolar process, a mixture of MinerOss® allograft and slower resorbing MinerOss® X xenograft was placed. The composite graft was covered with a collagen barrier (Mem-Lok® RCM) and a titanium-reinforced PTFE barrier (Cytoplast™) to maintain the space. Tension-free primary closure of the mucoperiosteal flap was obtained and maintained with 6-0 polypropylene sutures for 3 weeks. A CBCT at 7 months post-op shows excellent ridge augmentation with expansion from 3mm of width to 7mm of width prior to implant placement.
the choice is yours

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