Alveolar Ridge Augmentation using Subepithelial Connective Tissue Grafts: A Case report

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Abstract
Alveolar ridge deformity occurs frequently after teeth loss, leading to esthetic and functional compromises especially in the anterior maxilla. This case report demonstrates a two-step surgical ridge augmentation procedure using soft tissue grafts. A 42-year-old woman with Seibert Class III ridge deformity in the esthetic zone received plastic surgery using a subepithelial connective tissue graft harvested from the palate. The edentulous ridge healed with adequate buccolingual and apicocoronal contours. Fixed partial dentures were reconstructed with ovate pontic design to improve both functional and esthetic outcomes. Thus, the use of subepithelial connective tissue grafts is helpful in treating Seibert Class III ridge deformities.

Keywords: alveolar ridge augmentation, connective tissue graft, fixed partial denture, ovate pontic.

Introduction
Edentulous areas where fixed prostheses are attached should be carefully evaluated during the treatment planning phase. An ideally shaped ridge has a smooth, regular surface of attached mucosa. Its height and width should allow the placement of a pontic that can emerge from the ridge and mimic the appearance of neighboring teeth. However, there is a high incidence (91%) of residual ridge deformity following anterior tooth loss. Alveolar ridge deformity presumably occurs due to traumatic teeth removal, severe periodontal diseases, endodontic failure, implant failure, traumatic accidents, and developmental defects. An inadequate alveolar ridge can lead to esthetic and functional compromises, especially in the anterior maxillary region of patients with a high lip line.

Seibert classified residual ridge deformities into three categories. Class I is characterized by the faciolingual loss of tissue width with normal ridge height. Class II involves the loss of ridge height with normal ridge width. Class III is marked by a combination of loss in both dimensions. Class I deformities are infrequent and not esthetically challenging, and the surgical augmentation of ridge width is not common. Meanwhile, treatments of Class II and III ridge deformities present more difficulties because of the need to replace a high volume of tissue. Various grafting procedures have been developed for the reconstruction of deformed...