

**Prosthodontic management using Andrew’s Bridge: A case report**

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**Abstract**

Restoration of large anterior defects is required for replacement of missing teeth, soft and hard tissue contours and to fulfill the esthetic and functional requirements of the patient. Andrew’s Bridge is a fixed-removable prosthesis; is a treatment of choice where augmentative procedures cannot be performed. This case report presents the restoration of the defect in the mandibular anterior region.

**Introduction**

Defects in the anterior region of the jaws can occur due to congenital abnormalities, trauma or bone resorption. In case of large defects, in addition to replacement of missing teeth, restoration of the soft and hard tissues is necessary; where surgical procedures cannot be performed, a combination of fixed and removable prosthesis can be used for restoring the form and function. A tooth supported or implant supported fixed prosthesis as a treatment option in large defects has several limitations:

unesthetic long pontics, lack of proper lip support, need of soft and hard tissue augmentation and difficulty in maintenance.<sup>1</sup> If the abutment teeth adjacent to the edentulous defect are periodontally sound, a fixed removable partial denture (Andrew’s Bridge System) is a viable treatment option for the restoration of missing teeth, soft and hard tissues. This case report describes the prosthodontic management of a ridge defect in the mandibular anterior region using Andrews’s bridge.

**Case Report**

A 36 year old female reported for unesthetic appearance due to missing teeth in lower front region with a dental history of extraction of mobile teeth three years back. On clinical examination, the edentulous ridge appeared narrow and resorbed horizontally and vertically and it was categorized as Seibert’s Class III type of ridge defect.<sup>2</sup> (Figure 1) A conventional fixed partial denture was also not possible due to the severity of the bone defect and increased crown root ratio. Therefore, the treatment

planned for the patient was Andrew's Bridge System for replacement of missing teeth and restoration of bone defect.

Abutment teeth (33 and 43) were prepared to receive porcelain fused to metal restoration. On the master cast, wax patterns in the shape of copings were made. A plastic castable bar (OT Bar Multiuse, Rhein 83, Chennai, India) was attached to the wax patterns of the copings (Figure 2); which were then cast together as a single unit. After coping trial, ceramic layering on the copings was done. Autopolymerizing acrylic resin record base was fabricated over the retentive clip and plastic housing on which a wax rim was made. After recording the maxillomandibular relationship, the teeth arrangement was evaluated in the patient's mouth. The plastic housings were cast in Cobalt Chromium and acrylization of the removable partial denture was done in heat cure denture base resin. The metal housings were picked up using autopolymerizing acrylic resin and the retentive clips were placed in it. (Figure 3) Ceramic crowns with the cast metal bar were cemented on the abutment teeth (Figure 4). The patient was trained to insert and remove the prosthesis and oral hygiene instructions were given (Figure 5). Periodic recall was done and the patient was satisfied with the esthetic and phonetic outcomes.

### Discussion

Conventional removable or fixed partial denture independently may not be sufficient to treat localized alveolar ridge defects. In such cases, Andrew's bridge is used to restore hard and soft tissue contours and replace the missing teeth. The main advantage of Andrew's Bridge is the removable component which can be cleaned easily, and it also gives access to the abutment teeth and surrounding structures for hygiene maintenance.<sup>3</sup> The flange of the pontic assembly is contoured to improve comfort, esthetics, and phonetics and may be relined as

the ridge resorbs.<sup>1</sup> A minimum of 2 mm vertical bar height is required for sufficient strength to support the removable portion of the restoration. Contact between the inferior border of the bar and the underlying soft tissue is not desirable as it may cause food accumulation and tissue proliferation if the patient does not maintain good oral hygiene.<sup>4</sup>

In this case, missing teeth, soft and hard tissue contours were restored according to esthetics, phonetics and comfort of the patient. The retentive clip secured the partial denture to the rectangular metal bar. The acrylic lingual flanges were limited only to the edentulous area thus preventing interferences to the tongue. The acrylic segment of the prosthesis with the retentive clip was easy to insert and remove and hygiene of the abutment teeth was maintained due to direct access.

### Conclusion

Andrews Bridge is economically affordable when compared to bone augmentation and implant placement. Ease of fabrication for the dentist; hygiene maintenance and simplified use of the prosthesis by the patient makes it a desirable treatment option.

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