Prosthetic rehabilitation following cleft defect repair- a case report  
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Abstract
This clinical report describes the treatment of restoring the anterior teeth of 35-year-old woman with cleft involving the premaxilla. The loss of the supporting structures of the upper lip is restored using gingival tone porcelain supported underneath by metal. Teeth were restored using tooth colored porcelain. The prime considerations while fabricating the restoration were phonation, oral hygiene, followed by esthetics.

Key Words: Cleft Palate; Premaxilla; Gingival Tone Porcelain

Introduction
Repair of cleft involves various surgical stages; the treatment is rendered complete only after prosthetic rehabilitation. Each and every patient poses a unique situation when it comes to prosthetic rehabilitation (1-3). Apart from meticulous restoration of esthetics phonation is one factor which has to be taken into primary consideration especially when the center of the Premaxilla is involved. This clinical report describes the restoration of the anterior teeth along with the alveolus following surgical cleft repair (4).

Clinical Report
A healthy 35-year-old lady was referred from the cleft unit of the Department of Oral and Maxillofacial Surgery to the Department of Prosthodontics, Sibar Institute of Dental Sciences, Guntur. Examination of the patient revealed missing of four anterior teeth and a total loss of alveolus in the central incisor region (fig-1). The remaining clinical crowns were short but periodontally sound. The mandibular teeth were periodontally sound with the right first mandibular molar missing. The occlusion of teeth was good. The planned treatment was replacement of the maxillary anteriors with metal-ceramic restoration and simultaneously simulating the alveolus with gingival tone porcelain (5, 6).

Following oral prophylaxis, the right maxillary lateral, canine and the left maxillary first premolar were prepared for the fabrication of six teeth, under local anesthesia. An alginate impression was made for fabrication of temporaries. The final impression was made using putty-light body. The laboratory was instructed to fabricate the metal try-in in such a manner that the central incisors were long enough to be close to the alveolar defect. A space of 2.5 mm was present between the defective alveolar margin and cervical portion of the metal central incisors, for the creation of alveolus using gingival tone porcelains. A metal trial was given to the patient to adjudge the support that would be given by the long metal central incisors for gingival tone porcelains which should simulate the alveolus (fig-2A). During this try-in the incisal clearance was also carefully evaluated.

Fig:-1: Defect in the alveolar ridge

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Fig:-2A - Metal try in is done after tooth preparation, with increased crown height of anterior teeth. B- Finished prosthesis with gingival tone porcelain. C- Palatal portion contoured for proper phonation and hygienic. D- Cemented Prosthesis

The required length of the central incisors was marked on the metal using a graphite pencil. It was then sent to the laboratory for ceramic application. A pre-glazed trial was given to the patient to check the length of the central incisors, the fullness of gingival tone porcelain, self-cleansing area above the pontics and the shape of the palatal aspect of the entire bridge unit (fig-2C) (7). Once the factors of esthetics were deemed satisfactory the bridge was luted temporarily to check phonation (esp. the “th” sounds thick &
thin). Necessary corrections were made in the palatal contour and the restoration was sent for final glaze (fig-2B). The restoration was luted using GIC type-I (fig-2D). Excess cement was removed and the patient was referred to the speech therapy department (fig-3A, 3B).

Fig:-3- A-pre operative smile. B- Post operative smile

Discussion

In the case discussed above the gingival tone porcelains simulated the lost alveolus both labially and lingually while labially it increased the esthetics, lingually it aided in the pronunciation of those letters that require the anterior palate (9, 10). Great care is to be taken to prevent passage of air through the restoration during speech. At the same time the alveolus was developed such a manner the prosthesis was self-cleansing. Such a hygiene measure was considered very important taking into account the undercuts present in the defective alveolus. The palatal contours must be gradually restored to provide phonetic clarity. A restoration of this nature was considered because of a large defect in the alveolus.

Conclusion

This clinical report presents a prosthetic rehabilitation of a patient following cleft repair. A large alveolar defect was managed using gingival tone porcelains supported by metal along with metal ceramic restorations replacing the teeth. Palatal contours were developed to enable the patient to talk clearly and provide self-cleansing area.

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