Rehabilitation of hypodontia patient with acrylic partial denture

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Abstract
This case report describes the prosthodontic rehabilitation of 20 year old girl having hypodontia along with cleft lip and palate. Conventional acrylic removable partial denture was fabricated which not only replaced missing tooth but also covered the defect as well. With this approach adequate esthetic and functional results were achieved.

Keywords: Denture, Hypodontia, Rehabilitation

Introduction:
Hypodontia is the developmental absence of tooth/teeth excluding third molars, absence of all teeth is known as anodontia which is a rare situation1. It mostly involves the permanent dentition but if deciduous dentition is involved then the permanent successional teeth will also fail to develop2. It is more common in females as compared to males. Prevalence of hypodontia in permanent dentition is ranging from 3.5% to 6.5%, result varies in different studies due to difference in population studied3. Hypodontia in most cases is associated with other conditions like Ectodermal dysplasia, Down syndrome, Chondroectodermal dysplasia etc. The developmental disruption results from cleft lip and palate involving the alveolus results in an absence of teeth in that region, notably the maxillary lateral incisor4. These patients have retained deciduous teeth, existing permanent teeth are often microdontic, conical shaped and malpositioned. Due to absence of teeth there is lack of alveolar bone growth which results in increased interocclusal distance. These patients may present marked mandibular protrusion on closure or deep vertical overlap5.

Case Report:
A 20-year old girl reported to Prosthodontics Department, de’Montmorency College of Dentistry, Lahore with presenting complain of missing tooth and correction of defect due to cleft palate. Patient wanted to improve her facial and dental esthetics. She was operated twice for her cleft which results in scar mark on the face and small defect in the premaxillary region. Food particles deposited in that defect which made her mastication process uncomfortable. There were no other associated systemic diseases.

On extra oral examination, patient having ovoid face with concave profile, having mid face depression. During intra oral examination, maxillary left lateral incisor was missing. Teeth were maloccluded, oral hygiene was adequate. Oral mucosa and bone of the remaining area was healthy and normal.

Regarding management different treatment options were presented to the patient, patients was advised to consult orthodontist for correction of malocclusion, after that prosthetic rehabilitation would be started but patient due to time consumption and financial constraints refused this option. Focusing towards prosthodontic rehabilitation, first implant supported prosthesis option was proposed, for this treatment ridge augmentation or graft was required. Due to multiple surgeries, chances of graft failure, time factor, financial issues this option was also not accepted by the patient.

Then fixed prosthesis option was presented to patient but...
again due to financial issues, involvement of other healthy teeth for abutment, bony graft would be required, this treatment option was also rejected by the patient. Cast partial denture can fulfill the requirement but again due to financial limitations this option was not adopted. Finally acrylic partial denture option was given to the patient, due to ease of fabrication, cost factor, no need of any surgical procedure patient accepted this option. Also this prosthesis covered the defect as well which is not possible with fixed type of prosthesis.

Impression was made with irreversible hydrocolloid and cast was obtained. Jaw relation was done and cast articulated in a conventional style. Tooth selection was also done at jaw relation stage. Trial procedure was performed and after taking patient’s acceptance. Finally prosthesis was fabricated after curing, finishing and polishing. At the time of insertion, instructions were given to the patient regarding its use and denture hygiene.

Follow up was also carried out, denture and intra oral examinations were examined at every visit and both were found adequate. Patient had slight irritation on the left buccal side which was corrected by trimming and finishing of buccal flange. Patient is still wearing prosthesis and satisfied with its performance. This prosthesis not only solves the problem of uncomfortable mastication but also improves her esthetic as well.

Discussion:
Hypodontia patients having missing lateral incisor have various problems like unsightly space between central incisor and canine, a median diastema, drifting and rotation of central incisor and canine. In unilateral cases like this patient, these effects are asymmetric. Management of such patients requires multidisciplinary approach; different treatment options are available, each carrying its own advantages and disadvantages. First malocclusion would be treated and then prosthesis would be fabricated. Depending upon various factors main options are either to open the space followed by dental prosthesis or closure of space followed by reshaping of canine. For patients having hypodontia along with cleft palate implant supported removable partial denture is the first treatment of choice. As implant supported partial denture not only significantly improve the esthetic but also having better mechanical qualities as compare to conventional removable partial denture. Fixed prosthesis in such patients is not an ideal choice, as it not only involves other healthy teeth for abutment but also due to ridge defect ridge augmentation or graft may also be needed. Apart from these issues, fixed prosthesis do not cover the defect if exist. If implant supported removable partial denture option is not feasible then conventional removable cast partial denture is an ideal treatment choice. It is a non invasive procedure requiring only minimal preparation for retainers, guide planes, rest seats. If any defect persist this can also be adequately covered the prosthesis, it can be easily fabricated having low cost as compare to other dental prosthesis. In this particular case due to financial constraints acrylic removable partial denture was fabricated, patient is quiet satisfied with the performance of the prosthesis.
prosthesis and still wearing the denture. Now efforts are being made to resolve the financial matters of the patient to provide cast partial denture after correction of malocclusion by fixed orthodontics appliances.

**Conclusion:**
Patients having oral problems along with congenital defects are different from other patients and must be evaluated individually with great care to provide most suitable treatment options for them. After provision of prosthesis appearance, function and psychological well-being of such patients have been dramatically improved and prosthodontist can play a major role in rehabilitation of such patients11.

**References:**