ORIGINAL RESEARCH PAPER
Volume - 11 | Issue - 07 | July - 2022 | PRINT ISSN No. 2277 - 8179 | DOI : 10.36106/ijsr
INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

PROSTHODONTIC REHABILITATION OF A SIX-YEAR-OLD CHILD WITH ANODONTIA AND HYPODONTIA WITH AN ASSOCIATED NON-SYNDROMIC DEFECT.

Prosthodontics

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ABSTRACT

Edentulism has a series of detrimental effects on oral and overall health. Oral repercussions include the well-known residual ridge resorption, as well as impaired masticatory ability, an unhealthy diet, social limitations, and poor oral health quality of life. Pre-schoolers with edentulism with complete dentures are uncommon, although they do exist. When this unusual ailment is combined with cleft lip and palate, the situation becomes much more difficult. Since this is a rare condition, the growing child's confidence is negatively affected when he/she is compared to other youngsters of similar age groups. Hence, it is the responsibility of a clinician to give them better treatment that will enable the child to grow up in a healthy and happy environment. In such conditions, the most appropriate treatment of choice for a developing child is a removable prosthesis. Removable denture prostheses contributed immensely to the field of prosthodontics. This is a case report of prosthetic rehabilitation of a 6-year-old child with anodontia on the maxillary arch and hypodontia on the mandibular arch associated with cleft lip and palate.

KEYWORDS

Anodontia, Denture, Edentulism, Hypodontia, Removable Prosthesis.

INTRODUCTION

Complete and partial removable dentures have been used successfully in numerous patients with oligodontia and/or anodontia.[1] However, there is little information in the literature regarding the principles and guidelines for prosthetic rehabilitation for growing children.[2] When it comes to treating children whose dentition has not developed normally, prosthetic treatment can be quite helpful. One of the most common reasons for the need for complete and partial dentures in young children is congenital tooth loss.[3]

Treatment of child patients with missing teeth and cleft lip and palate can be difficult, not only because of the large number of congenitally missing teeth, or even anodontia but also because of the age at which they are typically referred for rehabilitation. Conventional removable complete or partial dentures are usually the most frequent prosthetic treatment plan for these young patients.[4,5] Primary dentitions are required for the acquisition and maturity of several functions that are essential for appropriate development. Furthermore, the poor appearance of these patients can influence their self-esteem, posing a difficulty to the clinician.[6]

This is a case report of prosthetic rehabilitation technique for a young patient with missing teeth along with cleft lip and palate.

CASE REPORT

A 6-year- old girl was referred to the department of prosthodontics from the Department of Paediatric Dentistry due to missing teeth and difficulties in speech and chewing.The extraoral features of the child were normal. Intraoral examination showed a completely edentulous maxillary arch and partially edentulous mandibular arch with poorly developed alveolar ridges. The tongue was relatively large, with no signs of macroglossia (Fig:1). The patient was advised to take OPG. The OPG revealed the unerupted 51,54,55,61,65,85 (Fig:2).

Fig:1

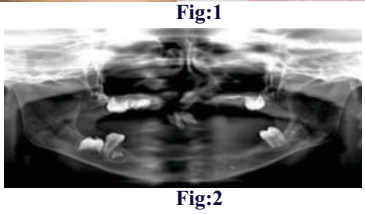

Fig:2

To improve the appearance, mastication, and speech, we decided removable complete denture in the maxillary and mandibular arch as the treatment option. The treatment plan and the steps involved in the fabrication of the complete denture were discussed with the parents. The need for re-evaluation and relining of the oral prostheses was also explained. The relining is necessary for the accommodation of the structural changes that can occur during the growing period.

The child was made comfortable by explaining and showing the procedures that had to be carried out during the complete denture construction. So, the first appointment was a purely introductory session. On the next appointment, the primary impression of the maxillary and the mandibular arch was made using putty impression material on a stock tray. The cast was poured and retrieved and undercuts were blocked using wax and the special try was fabricated using self-cure acrylic resin material (Fig:3). On the third appointment border molding was done using putty material and the secondary impression was made using light body impression material (Fig:4,5). The cast was poured using dental stone and retrieved. The denture base was fabricated using self-cure acrylic resin and the occlusal rims were fabricated using modelling wax. On the fourth appointment, tentative jaw relation was recorded and sealed and then mounted on a mean value articulator (Fig:6), and teeth arrangement was done.

Fig:3

Fig:4

Fig:5

Fig:6

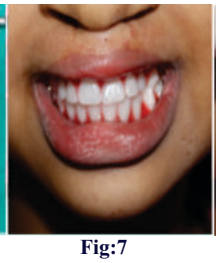

Fig:7

Fig:8

Here we selected monoplane teeth for posterior teeth arrangement. The next appointment was try-in (Fig:7). The patient and family's approval was taken and finally, the denture was fabricated using heat cure

acrylic resin material. Final finishing and polishing were done and the patient was recalled for the subsequent appointment. The denture was inserted and occlusal interferences were checked and corrected and the patient was happy with the prosthesis (Fig:8). Periodic recall and review were carried out.

DISCUSSION

For the management of a patient with anodontia and oligodontia, several therapeutic techniques have been identified. For these younger patients, conventional removable complete or partial dentures are the commonly preferred treatment. It suggests that providing early prosthetic care for young kids who are entirely edentulous is a good treatment option. Early complete denture intervention in these individuals may have a significant influence by improving masticatory function, swallowing abilities, phonetics, aesthetics, and gaining the self-confidence. [7]

In this present case report, the patient was having anodontia on the maxillary arch and hypodontia on the mandibular arch with cleft lip and palate. There was no syndromic familial history. Hence this may be a case of a non-syndromic condition.[1] Denture construction follows the same steps as for adult patients, including preliminary and secondary impressions, jaw relation, try-in, and insertion of the removable prosthesis. The only exception was the incorporation of monoplane teeth. The main aim of arranging the monoplane teeth was to prevent excessive force during mastication which may affect the growth of the alveolar ridge. Modifications or replacement will be required as a result of continued growth and development in young patients with complete dentures, therefore periodic recalls(3-6months) are frequently required.[7,8] In the present case, frequent recall appointments were given and the patient was completely satisfied and happy with the prosthesis.

Complete denture prosthesis has a prominent role in prosthodontics wherein those situations other treatment modalities cannot be applied as a treatment option. This technique enhances the patient's health and social integration, as well as allows the activation of the alveolar ridges in preparation for subsequent treatment with an implant-supported prosthesis, which is a more secure and aesthetic alternative for patients with oral agenesis.

CONCLUSION

Prosthodontic rehabilitation in children should begin as soon as feasible to maintain oral functions, ensure normal growth, and boost self-esteem while enhancing socialization skills. The use of partial and complete acrylic prostheses is a fascinating and practical option that provides a relatively quick, simple, acceptable, and cost-effective solution to functional aesthetic oral reconstruction and emotional benefit in young patients with pronounced edentulism.

Conflict of interest: Nil
Source of support: Nil
Ethical permission: Obtained

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