Journal of Applied Dental and Medical Sciences
NLM ID: 101671413 ISSN:2454-2288
Volume 4 Issue1 January-March 2018

Case Report

SANNRUDS SPACE MAINTAINER: A CASE REPORT

Devyani Singh[1], Monisha Moses[2] , Neerja Singh[3], Subash Singh[4]

[1,2]PG Student, Department of Pediatric and Preventive Dentistry, Babu Banarasi Das College of Dental Sciences, Lucknow, India.
[3] Professor and head, Department of Pediatric and Preventive Dentistry, Babu Banarasi Das College of Dental Sciences, Lucknow, India
[4] Reader, Department of Pediatric and Preventive Dentistry, Babu Banarasi Das College of Dental Sciences, Lucknow, India

ARTICLE INFO

Keywords:
Space maintainer, Sannrud Space Maintainer.

ABSTRACT

The premature loss of primary molars often causes undesirable drifting and loss of space. However, insertion of space maintainers to preserve arch length can prevent or limit the malocclusion development. A 6 year old child reported to the department of Pedodontics and Preventive Dentistry, with multiple grossly decayed teeth. Clinical evaluation revealed loss of clinical crown structure. Radiographically, multiple teeth showed radiolucency involving the furcation area with internal resorbtion. Therefore, before extraction, preservation of space for succedaneous tooth was planned. Sannruds space maintainer was planned as a temporary space maintainer till the eruption of the permanent first molar would be available for banding and fabrication of conventional space maintainers as clinically, the crown length of permanent first molar was not adequate for banding. Monthly follow-ups were done for examining wire distortion or breakage of springs due to occlusal load.

INTRODUCTION

The occlusal development is affected by many morphogenetic and environmental influences, and a disorder in any of these elements may influence the occlusion (Kargul et al., 2005). The consequences of the premature loss of primary teeth are that, the teeth mesial and distal to the space tend to drift or be forced into it. This may result in the impaction of the succedaneous tooth, a shift of the midline of the dental arch to the affected side, reduction in arch length required for the alignment of underlying permanent teeth, and over eruption of the opposing tooth, with subsequent impairment of function.

Maintenance of the space may eliminate or reduce these consequences (Kargul et al., 2003). One approach to control the space created from the premature loss of primary teeth is by the provision of a space maintainer appliance (Christensen et al., 2005), and various appliances can be used for space maintenance depending on the child's stage of dental development, dental arch involved, primary teeth missing, and which teeth they are. The patient's age and ability to co-operate and tolerate the appliance are also major considerations (McDonald et al., 1994). The most common type of space maintainer used in the case of premature loss of single, unilateral or bilateral maxillary or mandibular primary molar is the band and loop space maintainer (Simsek et al., 2004). It also adjusts easily to accommodate changing dentition.

* Corresponding author***: Dr. Devyani Singh, Address- 73 Dwarika Vihar near Shiva public school, Lucknow, 226006, Phone no. 9721443769, 9565321625, Email address- devyaniworld@gmail.com***


Fig.1:Pre-Operative Intra Oral photograph


Fig.2: Fabricated Sannrud's Appliance in Patient Month


Fig.3: Lateral View


Fig. 4: One Month Follow Up

Sannrud's space maintainer is a type of immediate space maintainer developed by Professor Sannrud's that can be constructed directly in the patient mouth post extraction, especially in cases when the facilities for construction of band and loop is not available for the time being until the factors are favorable to construct the band and loop space maintainer (El-Nassery 2010).

CASE REPORT

A Patient of age 6 years reported to department of Pedodontics and Preventive Dentistry, Babu Banarasi Das Dental College, Lucknow, with a chief complain of multiple decayed teeth bilaterally in the upper and lower, posterior region of jaw since 1 year. Clinical and radiographical examination showed multiple grossly decayed teeth which were non – restorable. Extraction was the treatment of choice, but the main concern was space loss post extraction. Radiographically, roots of succedaneous tooth were observed to be less than 1/3rd, and bilaterally, the clinical height of permanent mandibular first molar was less due to which conventional band and loop could not be fabricated. Model analysis was done using cast models and conclusion to place a space maintainer was drawn. Sannruds space maintainer was planned for a lesser time span i.e., until the eruption of first permanent molar with complete clinical crown.

FABRICATION OF SPACE MAINTAINER

A working model from dental stone was constructed by using alginate impressions. The mesio-distal length of the space was measured on the cast which was then transferred onto a stainless steel closed spring coil of 0.9 mm, Germany, the coil was activated 2mm in order to maintain the space, the ligature wire of 0.3 mm (Dentarum Stainless steel ligature wire, Germany) was wrapped and passed into the coil then wrapped around the mesial and distal tooth of the space and ligated in a manner that should be straight and not curved (El-Nassery, 2010).

Home care instructions on oral hygiene and appliance maintenance by avoiding chewing gum or sticky candy were given to both children and parents. They were instructed to return promptly if the appliance loosened, dislodged, or broke. Patients were recalled for evaluation every 3 months for a total of 12 months.

CONCLUSION

In the present case report, Sannruds appliance was observed to be effective, both patient and parents accepted the treatment well resulting in good patient compliance.

The present case report highlights the fact that Sannruds space maintainer can be used as a temporary space maintainer when the crown length available for band fabrication is short. It can be easily fabricated, chair side. Apart from being cost effective and less time consuming, it is observed to be less traumatic to the patients and can be immediately delivered after extraction of primary teeth.

REFERENCES

1. El-Nassery A.H. Evaluation of an Immediate Space Maintainer. Sannrud's Space maintainer. Egyptian Orthodontic Journal, Jun-2010.
2. McDonald RE, Hennon DK, Avery RH: Managing space problems. In: Dentistry for the Child and Adolescent, RE McDonald, D Avery, Eds. St Lousis: Mosby,1994:707-743
3. Baroni C, Franchini A, Rimondini L. Survival of different types of space maintainers. Pediatr Dent 1994; 16:360-361.
4. Christensen JR, Fields HW Jr. Space maintenance in the primary dentition. In: Pinkham JR, Casamassimo PS, Fields HW Jr, Mc Tigue DJ, Nowak AJ. Pediatric Dentistry: infancy through adolescences. Missouri: Elsevier Saunders, 2005: 419-448.
5. Tunc E.S, Bayrak S, Tuloglu N, Eglimez T, Isci D. Evaluation of survival of 3 different fixed space maintainers. Pediatric dentistry 2012; 34: 97-102.