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Case Report

A Novel Approach to Achieve Esthetics in The Case of Partial Anodontia with Customised Strip Crowns

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Abstract: Agenesis of permanent teeth, also known as partial anodontia, is a common problem. This unique case represents partial anodontia and most efficient treatment and less chair side time for the patient convince. Vacuum press sheet which is 1mm thick was used to form customize strip crown on final cast prepared after teeth buildup with mock up wax. Six month follow-up was done.
Keywords: Agenesis, Prosthetic rehabilitation , composite , crowns.

INRODUCTION

Partial anodontia of permanent teeth, also known as agenesis, is a common problem. Recent studies have shown that the incidence of anodontia is increasing[1].When central or lateral incisors are not present, parents, pedododentists and orthodontists are tasked to make the right decisions at an early stage – i.e. during the early years of the young patient's life and mixed dentition. This early decision will determine the dental health and physical appearance of the patient for a whole lifetime. This article presents one novel esthetic and functional treatment approach in a case of partial anodontia with customized strip crowns.

If a patient with congenitally missing central incisors and, consequently, this may lead to a collapse of the vertical dimension and impaired masticatory function is not treated appropriately[2]. The question facing the treatment team and the dental technician is: Should existing gaps be closed, or should they rather be leftalone ? By closing gaps orthodontically, prosthetic rehabilitation can be dispensed with, but at the cost of compromising both aesthetics and function[3]. Objective factors and a short-term prognosis, both of which would favor closing the edentulous spaces by moving the canines, include: lip support, tooth shape, overbite, tooth color and root position. The long-term prognosis, however, shows that modifying the intraoral static relationship and function will change a patient's overall physical appearance. On the other hand, opening gaps is a very complex endeavor, requiring a lengthy interdisciplinary treatment, where a meticulous analysis of the occlusion and individual treatment planning are determining factors for success[4].

Maintenance of permanent and primary dentitions in a healthy condition is important for the well-being of the child as far as proper esthetics, masticatory, phonetics, prevention of aberrant habits and space maintenance are concerned[5].

The esthetic restoration of partial anodontia has been for long a challenge to a pediatric dentist, not only because of the available materials and techniques[6] , but also from the point of view of pediatric patients, who are usually among the youngest and least manageable group.

CASE REPORTS

Case Detail

A thirteen year old boy, reported to the Department of Pediatric and Preventive Dentistry with the chief complaint of poor facial appearance. On examination firm retained primary 71, 81 found.[Figure - 1]. For the radiographic examination orthopentagram (OPG).[Figure - 2] was taken which revealed no signs root resorbtion of 71 and 81 associated without the tooth bud of 11 and 21. So aesthetic treatment was mainly focused in this case as patient and parents were more concerned about poor facial appearance.

Clinical Management

Step-wise treatment was carried out as mentioned herewith:

- Oral prophylaxis was done. Alginate impression of upper and lower arch were taken on the same day and cast were prepared with dental stone.

- Tooth build up was done with mock-up wax on 71 and 81 tooth to compensate space and lower central incisors build up was done according the anatomy of lower permanent central incisors in that place. [Figure - 3].
- Putty impression was taken after tooth build up.
- Final cast was prepared with dental stone. [Figure - 4].
- Cast was sent for the vacuum pres procedure with using 1.0 mm vacuum forming sheet. [Figure - 5].
- After that procedure formed sheet was cut from 33 to 43 teeth which was our custom made strip crown for 31 and 41. [Figure - 6].
- Vent holes were made on the lingual side followed by placement of matched shade composite were placed in custom made strip crown for 31 and 41.
- Retained primary incisors were acid etched with 37% phosphoric acid for one minute. After the teeth were rinsed.
- dried they were coated with prime and bonding agents
- Placement of this strip crown was done on respected teeth and cured it with UV light after stabilizing strip crown with proper pressure. [Figure - 7].
- Removal of strip crown and polishing, finishing were done.
- High points were checked. [Figure - 8].
- Followup after 6 months was done. [Figure - 9].

Fig-1

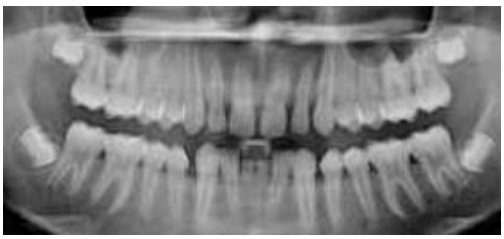

Fig-2

Fig-3

Fig-4

Fig-5

Fig-6

Fig-7

Fig-8

Fig-9

Clinical examination after one, three, and six months revealed the presence of an intact crown and the absence of any periapical pathology, confirming the efficacy of this less time consuming technique.

DISCUSSION

Children with dental developmental defects pose a major treatment challenge to the dental profession. This technique presents an alternative approach to provide optimal, transitional dental care for children with both esthetic and functional dental needs[1]. This technique may be indicated in children with severe dental anomalies and adequate interdental spacing, where minima or nol tooth preparation is required. More extensive preparation of the teeth would be required in cases with limited interdental spacing.[7] There are several distinct advantages to this technique compared with other methods. This technique can address the major restorative issues often seen in children with dental developmental defects[8].

As clinicians, we are challenged to continually modify and expand our repertoire of transitional treatment approaches for children with developmental dental anomalies. One of the most important goals of providing oral health care for these children is to maximize their psychological development[3]. Oral disfigurement can negatively alter normal development, leading to emotional and behavioral difficulties that typically result in diminished self-esteem[9]. This technique is less time consuming n easy to perform by clinician with cost effectiveness.

For these reasons, it is imperative that optimal oral esthetics be provided to pediatric patients despite the complexities that arise from mixed dentition treatment[10]. In summary, indications for the this restorative technique include patients in the mixed dentition with generalized interdental spacing and morphologically small teeth who desire increased crown length. Numerous developmental defects such as amelogenesis imperfecta, ectodermal dysplasias, trichodentoosseous syndrome[11] and generalized microdontia can present with these manifestations. This technique provides an intermediary treatment option that addresses esthetic concerns of the patient and parent during the critical mixed dentition developmental period[12].

CONCLUSION

- This technique provides a transitional treatment modality for children in the mixed dentition with developmental dental anomalies.
- This technique is cost-effective, esthetic, and easily modified at the gingival margin, making it applicable for treatment of the transitional dentition.
- Providing optimal dental esthetics during the transitional dentition is important to normal psychological development of child.

REFERENCES

1. Bouvier D, Duprez JP, Bois D; Rehabilitation of young patients with amelogenesis imperfecta: a report of two cases. J Dent Child, 1996; 63:443-47.
2. Hunter L, Stone D; Supraoccluding cobalt-chrome onlays in the management of amelogenesis imperfecta in children: A two-year case report. Quintessence Int, 1997; 28:15-9.
3. DeSort KD; Amelogenesis imperfecta: The genetics, classification, and treatment. J Prosthet Dent, 1983; 49:786-92.
4. Eastman J, Raibley S, Schwartz LJ; An esthetic management of the amelogenesis imperfecta patient. Illinois Dent J, 1983;379-81.
5. Joho JP, Marechaux SC; Amelogenesis imperfecta: treatment of case. J Dent Child, 1980; 47:266-68.

6. Lamb DJ; The treatment of amelogenesis imperfecta. J Prosthet Dent, 1978; 36:286-91.
7. Berger SJ; Composite technique for amelogenesis imperfecta. Dent Survey, 1974; 50:52-4, 1974.
8. Gibbard PD; The management of children and adolescents suffering from amelogenesis imperfecta and dentinogenesis imperfecta. J Oral Rehab, 1974; 1:15-25.
9. Wright JT; The diagnosis and treatment of dentinogenesis imperfecta and amelogenesis imperfecta. Hellenic Dent J, 1992; 2:1724.
10. Seow K; Trichodentoosseous (TDO) syndrome: case report and literature review. Pediatr Dent, 1993; 15:355-61.
11. Wright JT, Kula K, Hall K, Simmons JH, Hart TC; Analysis of the trichodentoosseous syndrome genotype and phenotype. Am J Med Genet, 1997; 72:197-204.
12. Price JA, Wright JT, Kula K, Bowden DW, Hart TC; A common DLX3 gene mutation is responsible for trichodentoosseous syndrome in Virginia and North Carolina families. J Med Genet, 1998; 35:825-28.