

ABSTRACT

Oligodontia is characterized by the congenital absence of more than six permanent teeth, not including the third molars. It is a rare dental anomaly that may be an isolated occurrence or as part of a syndrome. A ten year old male patient presented with ten congenitally missing permanent teeth in the mixed dentition. No significance related to his past medical history or of orofacial trauma was noted. Past family history revealed no evidence of familial congenitally missing teeth. The patient was asymptomatic. However, there were concerns regarding function, esthetics, and psychological development due to the missing teeth. This case report presents the challenges and a multidisciplinary treatment approach when oligodontia is identified in a patient in the mixed dentition stage of development.

CASE REPORT

This presentation discusses the management of a patient with non-syndromic oligodontia in mixed dentition. In September 2021, a ten year old African American male patient presented to the Case Western Reserve University (CWRU) Pediatric Dental Clinic for an initial visit. He was referred by his family dentist for space maintenance due to congenitally missing teeth. He had no significant medical history, was not currently taking any medications, and had no known allergies. He had no history of dental trauma or extractions of permanent teeth, and no knowledge of any other family members with congenitally missing teeth. His primary care provider was aware that he was congenitally missing teeth, however genetic testing for syndromes such as ectodermal dysplasia was never recommended. A brief exam revealed no abnormalities of the patient's hair, skin or nails.

A clinical exam revealed that the patient was in mixed dentition, with presence of teeth 3, A, B, C, 7, 8, 9, 10, H, I, J, 14, 19, K, L, 22, Q, 27, T and 30. Teeth 7 and 10 were peg laterals and teeth 3, 22 and 27 were partially erupted. A copy of a panoramic radiograph taken in August 2021 was provided by the patient's mother, which showed that the patient was missing teeth 5, 6, 11, 12, 21, 23, 24, 25, 26 and 28. The patient was asymptomatic and did not have any caries. It was determined that the patient should first schedule a consultation with the CWRU craniofacial team in order to discuss treatment options for replacement of his congenitally missing teeth.



The patient consulted with the craniofacial team in October 2021, and it was determined that all primary teeth without a permanent successor (teeth B, C, H, I, L, Q) should be kept as long as possible to preserve alveolar bone. All other primary teeth (teeth A, J, K, T) could be allowed to exfoliate naturally or be extracted to facilitate eruption of the succedaneous teeth. The long-term plan would be orthodontic treatment to improve alignment of teeth once all permanent teeth are erupted, composite restorations to improve esthetics of peg laterals, and eventually implants when the patient is skeletally mature. However, the patient's current chief complaint included replacement of missing mandibular anteriors and space maintenance for missing mandibular premolars. After discussion with the lab, patient, and patient's mother, it was determined that the best immediate option would be to fabricate a removable all acrylic mandibular partial denture with wrought wire clasps on teeth 19 and 30. This design would best facilitate modification of the partial as the patient's teeth erupt and exfoliate.

The patient presented in December 2021 to the pediatric dental clinic and an updated panoramic radiograph was taken. It was decided that tooth A should be extracted, as it was not mobile and in order to facilitate eruption of teeth 3 and 4. The patient tolerated the extraction well with the use of nitrous oxide. He returned in January 2022 for maxillary and mandibular impressions and a bite registration using Sil-Tech Lab Putty. By this time, tooth Q had exfoliated naturally. The patient later presented for a wax try-in, and the final mandibular partial denture was delivered in March 2022. The partial was adjusted to the patient's satisfaction and he demonstrated the ability to put in and take out the partial on his own. The patient and his mother were pleased with overall fit, occlusion, color, and esthetics. Care and use instructions were reviewed in detail.



DISCUSSION

Oligodontia identified in the patient in mixed dentition requires close follow up with several specialists as well as management of treatment expectations. In this case, the patient and his mother wanted a fixed option for the replacement of his congenitally missing permanent teeth, however the ability to provide a fixed prosthesis was complicated due to the patient being in a mixed dentition stage of development. Treatment acceptance of an all acrylic removable partial denture was based on the patient and his mother's understanding of treatment and managing their expectations of the esthetics, function, and temporary nature of the prosthesis. As the patient's teeth erupt and exfoliate, his prosthesis will need to be modified accordingly. Therefore, another treatment consideration is cost, as the patient may require the fabrication of multiple partial removable dentures prior to being able to obtain a fixed prosthesis and eventually, implants.

REFERENCES

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