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Manoranjan Mahakur
Senior Resident, PG Department
of Pedodontic and Preventive
Dentistry, SCB Dental College
Cuttack, Odisha, India

Santoshni Samal
PGT, PG Department of
Pedodontic and Preventive
Dentistry, SCB Dental College
Cuttack, Odisha, India

Kanika Chopra
PG, Department of Pedodontic
and Preventive Dentistry, SCB
Dental College Cuttack, Odisha,
India

Susmita Murmu
PG, Department of Pedodontic
and Preventive Dentistry, SCB
Dental College Cuttack, Odisha,
India

Khwairakpam Monika
PG, Department of Pedodontic
and Preventive Dentistry, SCB
Dental College Cuttack, Odisha,
India

Sarita Das
PG, Department of Pedodontic
and Preventive Dentistry, SCB
Dental College Cuttack, Odisha,
India

Krishnaveni L
PG, Department of Pedodontic
and Preventive Dentistry, SCB
Dental College Cuttack, Odisha,
India

Corresponding Author:
Manoranjan Mahakur
Senior Resident, PG Department
of Pedodontic and Preventive
Dentistry, SCB Dental College
Cuttack, Odisha, India

Oral rehabilitation of non-syndromic oligodontia: A case report

Manoranjan Mahakur, Santoshni Samal, Kanika Chopra, Susmita Murmu, Khwairakpam Monika, Sarita Das and Krishnaveni L

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Abstract

Absence of teeth is common in human dentition and it may be seen in primary or permanent dentition with unknown etiology but may be hereditary. According to the number of teeth, absent is can be divided into hypodontia or oligodontia. The prevalence rate may be from 1.6-6.9%. Sometime it may be associated with some syndrome or without any syndrome. This case presented with retained deciduous teeth and spacing in all year's male child without any other organ disorders. The retention was due to the absence of a permanent successor. So oral rehabilitation was done in the patients by considering the growth development and parent consent.

Keywords: Missing dentition, hypodontia, oligodontia, syndrome

Introduction

The most prevalent dentofacial malformation in humans is Hypodontia with a prevalence of 1.6-6.9% [1]. The term hypodontia refers to the absence of six or less number of teeth whereas oligodontia refers absent of more than six teeth and anodontia for complete missing of teeth [2]. Many theories suggest the multiplicity of tooth agenesis as a multifactorial etiology that involves genetic regulation and environmental factors so it mostly occur as part of a recognized genetic syndrome or as a nonsyndromic isolated trait [3, 4]. Tooth agenesis is considered rare in the deciduous dentition and more predilected towards girls [5]. The most commonly missing teeth are the mandibular second premolars followed by the maxillary second premolar and maxillary lateral incisors and the rarely missing teeth are the maxillary central incisors, maxillary and mandibular first molars and canines [6]. Hypodontia leads to delayed development and lack of growth of alveolar bone resulting in facial appearance of an edentulous person with mandibular protrusion and lip eversion on occlusion [7, 8].

The objective of this paper is to show the clinical case of a child with the absence of 7 permanent teeth, of idiopathic etiology, without a history of hypodontia in the family and its rehabilitation.

Case report

A male patient of 11 years reported to the Department of Pediatric and preventive dentistry, SCB Dental College and Hospital Cuttack with his mother's. The mother having complain of non-shedding of deciduous teeth of the upper anterior. The patients had no history of trauma or extractions. There was no history of craniofacial clefts in maternal the paternal family of the child. The pregnancy of the mother was uneventful. The boy was the first child and only child but family history revealed that Father was having missing lower right lateral incisor with any extraction history (FIG 1). The extraoral examination of the face mimics that of the edentulous person, with a mandibular protrusion, maxillary retrusion and deep sulcus (Fig. 2). The Physical examination of the patients revealed no abnormality in either hairs or nails. The boy was having a good body built and normal perspiration so suggestive of non-syndromic.



Fig 1: Missing lower right lateral incisor with any extraction history of child's father



Fig 2: Extra oral examination of the face mimics that of the edentulous person

On intraoral examination the following teeth were present clinically 16, 15, 14, 53 52, 51, 26, 25, 24, 63, 62, 21, 37, 36, 75, 34, 33, 32, 31, 47, 46, 85, 44, 43, 42, 41 (FIG 3 a,b,c). Presence of high Frenal attachment with diastema, high and narrow palatal arch, No caries tooth found, oral mucosa and gingiva are good. To rule out other suspecting abnormalities or associated syndrome OPG, Lateral cephalometry and some blood test advised. The panoramic radiograph showed absence of 11, 12, 13, 22, 23, 35, 45, permanent teeth and submerged 85 (FIG 4). The blood report of Serum Calcium, alkaline phosphate, T3, T4, TSH was on the normal range.

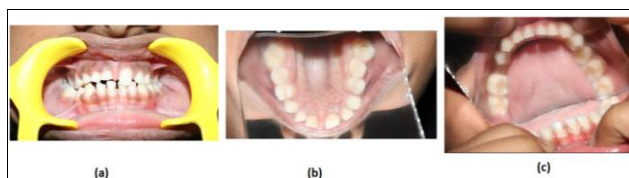


Fig 3abc: On intraoral examination the following teeth were present clinically 16, 15, 14, 53 52, 51, 26, 25, 24, 63, 62, 21, 37, 36, 75, 34, 33, 32, 31, 47, 46, 85, 44, 43, 42,

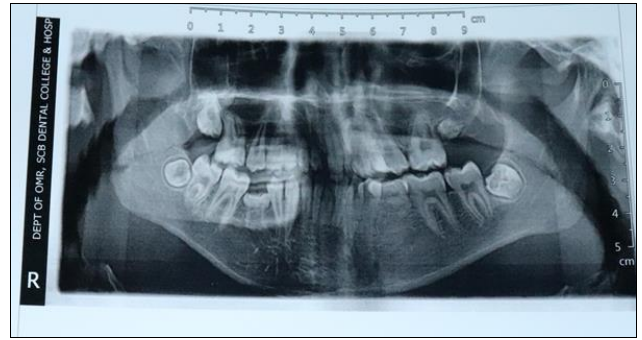


Fig 4: Panoramic radiograph showed absence of 11, 12, 13, 22, 23, 35, 45, permanent teeth and submerged 85

Treatment

Laser frenectomy was performed for high Frenal attachment under all precautions. The retained deciduous teeth 51 and 52 was not mobile so it restored with the composite build up and planned for implant prosthesis in the future after completion of growth (Fig. 5a & b).



Fig 5: Retained deciduous teeth 51 and 52 was not mobile so it restored with the composite build up and planned for implant prosthesis in the future after completion of growth

Discussion

Many genetic syndromes are associated with Oligodontia such as ectodermal dysplasia, incontinentia pigmenti, Down syndrome, Rieger syndrome, Wolf-Hirschhorn syndrome, Van der Woude syndrome, ectrodactyly-ectodermal dysplasia-clefting syndrome, cleft lip palate ectodermal dysplasia syndrome, oral-facial digital syndrome type I, Witkop tooth-nail syndrome and Fried syndrome [9]. In this case report, oligodontia is not associated with any syndrome, which is a rare finding. Oligodontia is often related to conical shaped teeth, microdontia, delayed eruption of permanent teeth, and increased freeway space, and retention of deciduous teeth [10]. Our case report also had retention of deciduous teeth. The etiology of congenital absence of permanent teeth is due to the failure of the lingual or distal proliferation of the tooth bud cells from the dental lamina and also due to multiple genetic and environmental factors. The environmental factors such as irradiation, tumors, trauma, hormonal influences, rubella, and thalidomide may contribute to the cause of Oligodontia with some hereditary genetic dominant factors, or to both [11]. The mutations of PAX9 and MSX1 genes identified to have been associated with a nonsyndromic form of tooth agenesis [12]. Tsai *et al.* have reported a case of oligodontia in a 6-year-old girl with congenital absence of 16 permanent teeth [13]. Rasmussen P reported nonsyndromic 9 cases with the absence of 14-24 teeth excluding the third molar [14].



Fig 6: Laser prinectomy

The present report shows congenitally missing 7 permanent teeth in the 11-year-old boy. But no identifiable etiology was found. The patient was young and growing, so the extraction of deciduous teeth with the placement of implants was postponed till growth completion and treated conservatively.

Conclusion

Patients with features of oligodontia or hypodontia or anodontia should be evaluated thoroughly and genetic counselling should be carried out to rule out the presence of any syndromes and early management. The patient presenting with missing teeth suffers not only from masticatory and esthetics problems but psychological stress as well, as it can lower the self-esteem of an otherwise healthy individual so a thorough treatment planning should be done with multidisciplinary approach. Treatment should start as early as possible to prevent the late consequence and patients' growth status should be considered.

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References

1. Matalova E, Fleischmannova J, Sharpe PT, Tucker AS. Tooth agenesis: from molecular genetics to molecular dentistry. *Journal of Dental Research*. 2008;87(7):617-623.
2. Nunn JH, Carter NE, Gillgrass TJ, *et al*. The interdisciplinary management of hypodontia: background and role of paediatric dentistry. *British Dental Journal*. 2003;194(5):245-251.
3. Azza Husam Al-Ani, Joseph Safwat Antoun, William Murray Thomson, Tony Raymond Merriman, Mauro Farella. Hypodontia: An Update on Its Etiology, Classification, and Clinical Management.
4. Cobourne MT, Sharpe PT. Diseases of the tooth: the genetic and molecular basis of inherited anomalies affecting the dentition. *Wiley Interdisciplinary Reviews: Developmental Biology*. 2013;2(2):183-212.
5. Hosur MB, Puranik RS, Vanaki SS. Oligodontia: A case report and review of literature. *World J Dent*. 2011;2:259-62.
6. Grahen HJ. Hypodontia in permanent dentition. *Odontol Rev*. 1956;7:1.
7. Tsai PF, *et al*. Oligodontia: A case report. *Quintessence Int*. 1998;9:191-3.

8. Hobkirk JA, Brook AH. The management of patients with severe hypodontia. *J Oral Rehab*. 1980;7:289-98.
9. Hosur MB, Puranik RS, Vanaki SS. Oligodontia: A case report and review of literature. *World J Dent*. 2011;2:259-62.
10. Tangade P, Batra M. Non syndromic oligodontia: Case report. *Ethiop J Health Sci*. 2012;22:219-21.
11. Mostowska A, Biedziak B, Trzeciak WH. A novel mutation in PAX9 causes familial form of molar oligodontia. *Eur J Hum Genet*. 2006;14:173-9.
12. Guruprasad R, Nair PP, Hegde K, Singh M. Case report: nonsyndromic oligodontia. *J Indian Dent Assoc*. 2011;3:450-4.
13. Tsai PF, Chiou HR, Tseng CC. Oligodontia: A case report. *Quintessence Int*. 1998;29:1913.
14. Rasmussen P. Severe hypodontia: Diversities in manifestations. *J Clin Pediatr Dent*. 1999;23:179-88.