

Case Report

Non syndromic hypodontia with retained natal teeth-a rare case report

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Received: 18 April 2023

Accepted: 12 May 2023

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ABSTRACT

Teeth that erupt prematurely have been designated with various terms such as natal teeth, neonatal teeth, congenital teeth, pre-deciduous teeth and dentitio praecox. Tooth agenesis is one of very common finding in a person. Developmental or congenital absence of one or more teeth excluding the third molars is a highly prevalent condition referred to as hypodontia. The incidence of hypodontia usually varies from 1.6-6.9% while the incidence of natal teeth on the other hand is noted to be approximately 1:2,000-1:3,000. Lower primary central incisors are the most affected tooth. The occurrence of retained natal teeth and that too with hypodontia is not found in the literature. This case report presents a rare occurrence of hypodontia with presence of retained natal teeth in a 14-year-old male child. Diagnosis made as non-syndromic hypodontia and retained natal teeth.

Keywords: Dentitio praecox, Natal teeth, Hypodontia

INTRODUCTION

Generally, eruption of primary teeth starts at age of 6 months. Massler and Savara named teeth which appear at birth as Natal teeth. They also gave term Neonatal teeth, to those teeth which erupt with early first 30 days.¹ Other names given to these teeth are congenital teeth, fetal teeth, premature teeth, predecious teeth/dentitia praecox.⁷ Although the aetiology of both natal and neonatal teeth are unknown but some conditions like infection, malnutrition, hypovitaminosis, trauma, hormonal stimulation and maternal exposure to toxins can act as causative factors.^{1,7}

According to various studies the incidence rate was reported as 1:2000-1:3500. They may appear yellowish grey or brown, may or may not be present with pronounced mobility.¹² They are accompanied by some difficulties faced by children, such as pain on sucking, refusal to feed, laceration on breast or the sublingual area.¹¹

Natal teeth can also be seen with other developmental anomalies or syndromes.⁹ Hypodontia is described as developmental failure of six or fewer teeth, including primary or permanent excluding the third molars.⁶ Incidence rate reported for hypodontia is 1.6-6.9%. Mandibular second premolar is considered to have highest incidence rate followed by maxillary lateral incisors.⁵

Hypodontia may lead to abnormalities in occlusion like deep bite or spaced permanent dentition. Some of the functional and aesthetic limitations can also occur like poor gingival contour, over eruption of opposing teeth, chewing difficulties.² In current case the diagnosis was done on the basis of history, clinical and radiological findings.¹⁰

CASE REPORT

A 14-year-old male patient reported to department of pediatric and preventive dentistry, Mahatma Gandhi

dental college and hospital, Jaipur came with a chief complaint of unerupted permanent teeth in lower front tooth region. No relevant past medical and dental history was found. Family history of the patient was negative. The developmental milestone of the patient was normal. Mother of the patient gave history of child being born with teeth which has caused her difficulty in breast feeding.

On physical examination, the patient had normal appearance, height, weight, intelligence without any other abnormalities. On extra oral examination, no evident abnormalities were present in the eyes, ears, hairs and nails and the face was bilaterally symmetrical. On examination of TMJ, no clicking sound, crepitus, pain, deviation of mouth or restricted mouth opening was seen. On examination of lymph nodes, they appeared to be normal and not palpable.

On intra oral examination, patient showed mixed dentition phase. Examination revealed presence of following teeth (according to FDI numbering system)-17 16 55 14 53 13 11 21 23 63 24 25 26 27, 47 46 85 44 43 42 41 31 32 33 34 75 36 37



Figure 1: Maxillary view.



Figure 2: Mandibular view.

Clinical absence of permanent maxillary lateral incisors can be seen in Figure 1. Presence of natal teeth can be seen in Figure 2 along with clinical absence of permanent second pre molars and lingually placed central incisors.

To confirm the absence of permanent maxillary lateral incisors and mandibular second pre molar and presence of natal teeth, an orthopantomogram was taken.

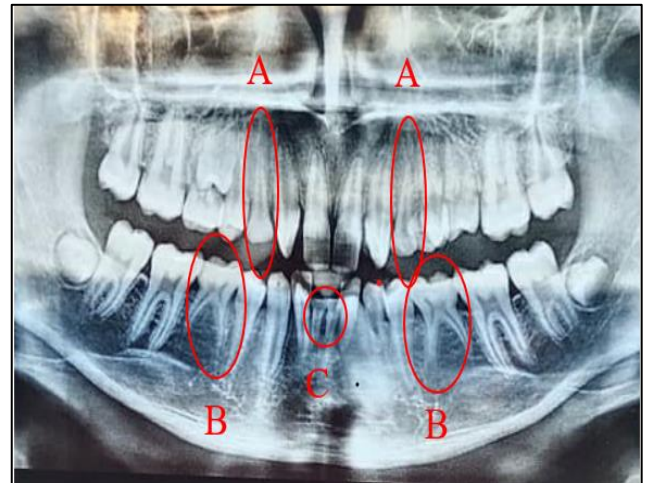


Figure 3: Orthopantomograph.

Point A-shows bilateral presence of primary canine with absence of permanent lateral incisor. Point B-shows bilateral presence of primary first molar with absence of permanent second pre molar. Point C-shows presence of retained natal teeth.

Diagnosis was made on the basis of clinical findings, history and radiographic findings as a case of non-syndromic hypodontia with retained natal teeth.

DISCUSSION

Natal teeth were first studied and documented by Titus Livius in 59 BC. Many misconceptions and superstitions are also related to the occurrence of natal teeth. Gaius Plinius Secundus (the elder) in 23 BC, said that male infants with natal teeth will have a splendid future. People in China believe that natal teeth are a bad omen for girls.¹¹

Around 90% of the natal teeth are considered to be prematurely erupted deciduous teeth whereas less than 10% are supernumerary. Anegundi et al reported a 66% prevalence amongst females against a proportion of 33% affected males, although it is not similar in every region. There is no such incidence or prevalence rate reported in literature for retained natal teeth. Most of the cases reported have shown exfoliation or extraction of the tooth.

Spouge and Feasby in 1966 classified natal and neonatal teeth on the basis of developmental stages as “mature

teeth” which are almost fully developed with good prognosis and “immature teeth” which are not completely formed and have poor prognosis.⁷

Hebling et al in 1997 classified natal teeth into four categories on clinical basis as: Shell shaped crown poorly fixed to the alveolus by gingival tissue and absence of a root. Solid crown poorly fixed to the alveolus by gingival tissue and little or no root. Eruption of the incisal margin of the crown through the gingival tissues. Edema of the gingival tissue with an un-erupted but palpable tooth.

Exact etiology has never been known. It is suggested that natal teeth occur due to inheritance as dominant autosomal trait. Another etiology may also be any endocrinal disturbances from pituitary, thyroid and gonads. Some hypotheses have stated that decreased or increased resorption of overlying bone, poor maternal health and congenital syphilis may also result in early eruption of natal teeth.⁹

Hals observed normal pulp tissue in natal teeth except for the presence of inflammation in some areas. Histologically, absence of enamel layer or a very thin layer or enamel can be found. Atypical dentin was found which could have been a result of response to irritant stimulus in oral cavity. No cementum was found while the pulp canal was observed to be wider than usual.¹¹

The major complication seen is the presence of ulceration on ventral surface of tongue, a condition known as Riga Fede disease. Other complications associated are inconvenience during suckling and injury to mother's breast. If mobile, the tooth would need to get extracted. In any other scenario, the teeth can be preserved to function as natural space maintainer until the permanent successor erupts.^{7,12}

Contrary to this rarely occurring dental anomaly, Hypodontia is one of the most commonly seen craniofacial malformation. Excluding third molars, the prevalence rate of hypodontia ranges from 1.6-6.9%. The condition refers to developmental failure of six or fewer teeth which may be primary or permanent. This occurs as a part of genetic syndrome or a non-syndromic isolated trait.⁵ A series of genetically controlled successive molecular interactions are involved in the development of teeth. Any alteration in one or more of the signalling pathways may affect development of teeth and can cause hypodontia.⁶

In the primary dentition, hypodontia might occur in the region of maxillary laterals and mandibular central incisors accounting to 50-90% of the cases. While in permanent dentition, mandibular second premolars and maxillary lateral incisors are most likely to be missing. Most individuals lack one or two teeth and every one out of five people lack a third molar making the prevalence rate rise to 36.5%.⁴ Polder et al in 2004 stated that bilateral agenesis of maxillary lateral incisors was a more common

occurrence while other teeth showed unilateral agenesis more.⁶

Over 300 genes are expressed and involved in the process of tooth morphogenesis including MSX1, PAX9, AXIN2, EDA, SPRY2, TGFA, SPRY4, WNT10A, FGF3, FGF10, FGFR2, and BMP4. Among these, PAX9, MSX1, AXIN2 and EDA are most frequently associated with non-syndromic hypodontia.³

Often non syndromic, hypodontia can sometimes be associated with oral clefts, down's syndrome and ectodermal dysplasia. It can also be associated with other tooth anomalies such as ectopic eruption, reduction in tooth dimension and morphology, shortened roots, taurodontia and enamel hypoplasia. Malocclusions like transposition or rotation of teeth, retroclined and over erupted lower incisors and generalized spacing are some common findings in cases of hypodontia.¹⁴ Management of hypodontia involves orthodontic intervention which is suggested to be done in early adolescence age.

In the case presented here, association of retained natal teeth is seen with hypodontia which is a rare occurrence. This clinical presentation has never been reported in the dental literature and Natal teeth is not found to be retained for such a long time. After formulating the treatment plan which will involve extraction of the retained natal teeth, laterally placed permanent maxillary central incisor will be kept under observation so as to self-align into occlusion. The deciduous maxillary canine and mandibular second molars, if healthy, will be left as such. In other scenario, patient will be informed about oral surgical, placement of dental implant and any orthodontic treatment that may be required.

CONCLUSION

Occurrence of retained natal teeth and hypodontia simultaneously is a rare finding. As it is non syndromic, it is difficult to diagnose also. A multidisciplinary approach is needed for treatment of such cases which would require preventive, corrective and rehabilitative procedures in accordance to the severity of dental condition. Early diagnosis and intervention are required which would help the patient have better aesthetics and functional integrity of oral cavity.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: Not required

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Cite this article as: Gera D, Marwah N, Jain S, Tanwar A. Non syndromic hypodontia with retained natal teeth-a rare case report. *Int J Contemp Pediatr* 2023;10:972-5.