

Natal Teeth: A Clinical Report

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ABSTRACT

Aim: To report a case of 25 days old male infant with two natal teeth in the mandibular anterior region of jaw since birth.

Summary: Child development from conception through the first year of life is marked by many changes. Tooth eruption follows a chronology corresponding to the date when the tooth erupts into the oral cavity. Eruption of teeth at or immediately after birth is relatively rare phenomenon. These teeth are known as natal teeth if present at birth and neonatal teeth if they erupt within first 30 days of birth. Hereby, we present a case of natal teeth which presented as mandibular central incisors, rectangular in shape. The right tooth was centrally placed, while left incisor was deviated mesially. The major complication in our case was discomfort during suckling and difficulty in feeding. In such cases a dental roentgenogram may be indicated to differentiate the premature eruption of a primary tooth from supernumerary tooth.

Key words: Natal teeth, Neonatal teeth, Primary dentition

INTRODUCTION

Natal teeth were reported during Roman times by Titus Livius (59 BC) and Caius Plinius Secundus (23 BC), and were described in the cuneiform inscriptions found at Nineveh.¹ Superstitions and folklore about natal teeth have varied from



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claims that affected children were exceptionally favoured by fate to the belief that they were doomed.² In 1950, Massler and Savara³ introduced the now commonly used term “natal teeth” for teeth present at birth also known (prematrure or predeciduous dentition), and “neonatal teeth” for teeth that erupt within the first 30 days of life.

The incidence of natal and neonatal teeth has been investigated in multiple studies. Leung⁴ studied 50, 892 infants and found the incidence rate to be 1:3,392 of live births. In a 1995, Zhu and King⁵ tabled the results from 1876 to 1991, and reported the incidence of both natal and neonatal teeth ranging from 1:716 to 1:30,000, whereas Chow⁶ reported the incidence rate ranging from 1:2,000 to 1:3,500. The prevalence reported in the literature, is summarized in Table 1, and it is a rare event.⁷⁻⁹

The definition presented by Massler and Savara³, has been accepted and utilized by most authors.¹⁰ The condition has been the subject of curiosity, and studied since the beginning of time, being surrounded by beliefs and assumptions. Titus Livius, in 59 BC, considered natal teeth to be a prediction of disastrous events, and Caius Plinius Secundus (the Elder), in 23 BC, believed that a splendid future awaited male infants with natal teeth, whereas the same phenomenon was a bad omen for girls.¹¹

Natal and neonatal teeth erupt commonly in the mandibular anterior region, but several reports show their unusual occurrence in the mouth. It has been observed that, natal and neonatal teeth erupt 85% in mandibular incisor region, 11% in maxillary incisor region, 3% in mandibular canine region and 1% in maxillary canine and molar region.⁵ Present paper intends to report a case of 25 days old male infant with two natal teeth in the mandibular anterior region of jaw since birth.

CASE REPORT

A 25 days old male infant was referred for examination in OPD of Faculty of Dental Sciences, Chhatrapati Shahuji Maharaj Medical University, Lucknow (UP), India, for evaluation. Patient’s mother’s chief complaint was of difficulty in feeding and refusal to suck milk due to presence of teeth in lower anterior region since birth. Family history was non-contributory. Oral examination revealed two teeth in the central incisor area of mandibular arch. Teeth exhibited an opaque whitish coloration along with mobility, and inflammation of gingivae around the teeth was also present (Fig 1). The crown



Figure 1: Natal teeth in mandibular anterior region

of both central incisors was rectangular in shape, while left central incisor was deviated mesially. Provisional diagnosis of natal teeth was made, but to rule out predeciduous dentition (premature eruption), expulsive folliculitis or true deciduous teeth, an orthopantomograph was advised to the patient. However, the patient's mother did not agree for the radiographic exposure of the infant. The infant was referred to Department of Oral and Maxillofacial surgery for the treatment. Both teeth were extracted under local anaesthesia (2% lignocaine) with adrenaline (1:200000), and careful curettage of the sockets was done in an attempt to remove any odontogenic cellular remnants. If remnants are retained, they will subsequently develop atypical tooth like structure that requires additional treatment. The patient's mother was recalled after three weeks and it was reported by parents that, he was feeding normally without any post-operative complications and the baby appeared to be much more contented. Thereafter, active follow up, was advised every three months till primary incisors started appearing in the oral cavity.

DISCUSSION

Although eruption of the lower deciduous incisors is normal at birth in many mammals, natal teeth are rare in humans.⁴ The condition is slightly more common in females.² Natal teeth are rare in extremely preterm infants.¹² The exact etiology is not known. Infection, febrile states, trauma, malnutrition, superficial positions of the tooth germ, hormonal stimulation and maternal exposure to environmental toxins have been implicated as causative factors.^{13,14}

The condition might occur as a familial trait since a positive family history has been reported in 8-62% of cases.⁵ Hereditary transmission of an autosomal dominant gene has also been suggested. Hyatt¹⁵ reported a family in which five siblings were born with natal teeth. Natal teeth are present in 2% of infants with unilateral cleft lip and palate and 10% of infants with bilateral cleft lip and palate.⁷ Natal teeth have also been reported in association with syndromes such as Ellis-van

Crevelde (chondroectodermal dysplasia), Jadassohn-Lewandowsky (pachyonychia congenita), Hallerman-Streiff (oculomandibulofacial syndrome with hypotrichosis), craniofacial dysostosis, steacystomamultiplex, Sotos, Wiedemann-Rautenstrauch, Meckel-Gruber and Pierre Robin.² All these syndromes manifest numerous other signs which were absent in our present case.

Similar conditions such as supernumerary, early eruption, predeciduous dentition (premature eruption), expulsive folliculitis or true deciduous teeth, may be differentiated by thorough anamnesis, clinical and radiographic examinations. Fauconnier and Gerardy¹⁶ have differentiated "early eruption" from "premature eruption (predeciduous dentition)". "Early eruption" is because of changes in the endocrine system, whereas "premature eruption" is a pathological phenomenon with the incomplete rootless tooth that exfoliates in a short period of time, and designated as "expulsive Capdepont follicle," which may result due to trauma to the alveolar margin during delivery, with the resulting ulcer acting as a route of infection up to the dental follicle through the gubernacular canal, causing premature loss of the tooth.¹⁷ The introduction of a finger into the baby's mouth by the obstetrician during the Moriceau maneuver (a process of dislodgment of the fetus's head retained in the pulvian excavation or in the soft pelvis) leading to infection of the follicle affecting the gubernaculum dentis persistente, causing phlegmasia and turgidity of follicular tissues.¹⁸ "Premature eruptions" of teeth are the structures which are occasionally seen in infants at birth. These are described as hornified epithelial structure, occurring in gingivae over crest of ridge, which can be easily removed, and have been thought to arise either from an accessory bud of the dental lamina ahead of the deciduous bud or from the bud of an accessory dental lamina.¹⁹

True early eruption and expulsive folliculitis is differentiated on the basis of the following characteristics:¹⁷ Expulsive folliculitis represents rapid tooth eruption (2 to 3 mm in one day), together with extreme mobility, and turgidity and inflammation of the gingiva in the eruption zone were noted; whereas, true early eruption represents solidity and normal eruptive path of the tooth were observed, with integrity of the gingival mucosa.

Morphologically, natal and neonatal teeth may be conical or may be of normal size and shape and opaque yellow-brownish in color.¹⁸ According to Bigeard *et al.*,²⁰ the dimensions of the crown of these teeth are smaller than those obtained by Lautrou²¹ for primary teeth under normal conditions. The terms natal and neonatal were limited only to the time of eruption and not to the anatomical, morphological and structural characteristics.³ Spouge and Feasby²² classifies these teeth on the basis of clinical characteristics as 'mature' teeth which are well develop in shape as compare to morphology of primary teeth with relatively good prognosis, and 'immature'

teeth that assume the presence of an incomplete structure and development with a poorer prognosis. On the basis of literature data, Hebling²³ classified natal teeth into 4 clinical categories: 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 gingival tissue; Edema of gingival tissue with an unerupted but palpable tooth.

Histologically, the majority of natal teeth have dysplastic or hypomineralized enamel, irregular dentin and osteodentin in the cervical portions and interglobular dentin in the coronal regions with rich in vascularization of pulp. The incisal edge might lack enamel. Both Hertwig's sheath and cementum might be absent.⁴

Table 1: Prevalence of Natal and Neonatal Teeth reported in the Literature^{3,4,6-9,11,25,27,29}

Year	Authors	Reported Prevalence
1876	Magitot	1:6000
1876	Puech	1:30000
1897	Ballantyne	1:6000
1950	Massler & Savara	1:2000
1958	Allwright	1:3408
1959	Bodenhoff	1:3000
1962	Wong	1:3000
1963	Bodenhoff & Gorlin	1:3000
1967	Mayhall	1:1125
1980	Chow	1:2000 to 3500
1982	Anderson	1:800
1984	Kates <i>et al.</i>	1:3667
1986	Leung	1:3392
1990	Bedi & Yan	1:1442
1991	Rusmah	1:2325
1996	Almeida & Gomide	1:21
1997- 2000	Alaluusua <i>et al.</i>	1:1013
2009	Rao RS	1:700 to 1:30,000

Complications that arise from the presence of natal teeth include discomfort during suckling, laceration of the mother's breasts, sublingual ulceration (Riga-Fede disease) with resultant feeding refusal, and aspiration of the teeth.^{4,24} The presence of natal and neonatal teeth may be a source of doubt about the treatment plan. In the decision of maintaining or not, these teeth in the oral cavity, some factors should be considered, such as implantation and degree of mobility, inconveniences during suckling, and interference with breast feeding, possibility of traumatic injury,²⁵ and the diagnosis for the maintenance of these teeth of the normal dentition is

important, since the premature loss of a primary tooth may cause loss of space and collapse of the developing mandibular arch resulting in malocclusion of permanent dentition.

If the treatment option is extraction, this procedure should not pose any difficulties since these teeth can be removed with a forcep or even with the fingers. However, few precautions have been recommended that should be taken when extracting these teeth which include: avoiding extraction up to the 10th day of life to prevent hemorrhage, assessing the need to administer vitamin K before extraction, considering the general health and condition of the baby, avoiding unnecessary injury to the gingivae, and being alert to the risk of aspiration during removal.²⁶ Rusmah²⁷ advocated, that natal tooth extraction is contraindicated because of the risk of hemorrhage. However, administration of vitamin K before the procedure permits safe extraction. Berendsen and Wakkerman²⁸ also mentioned the risk of hemorrhage in extractions performed before 10 days of life, when vitamin K was not administered.⁴ Further, to prevent continued development of the cells of the dental papilla, extraction of the tooth should be followed by careful curettage of the socket without disturbing primary tooth bud. But, it should be kept in mind that failure to curette the socket may cause eruption of odontogenic remnants and necessitate future treatment.

As per the classification described above, case presented here was "mature teeth" with "solid crown poorly fixed to the alveolus of the gingival tissue with little root". The correct diagnosis of natal teeth is based on clinical as well as radiographic findings. In order to determine whether these teeth belong to normal dentition or predeciduous dentition, a radiographic verification of the presence or absence of primary tooth germ is important. However, in present case, reluctance on the part of the parents for radiodiagnosis of the condition may hamper early diagnosis, and this could only be ascertained after six months follow-up period, when primary central incisors were reportedly present in the oral cavity of the child. Prematurely erupted true deciduous teeth of course, are not to be extracted. If the erupted tooth is diagnosed as a tooth of the normal dentition, complications should be kept in mind. When well implanted, these teeth should be left in the arch and their extraction should be indicated only when they cause difficulty in feeding, or causing injury to the baby or they are highly mobile, with the risk of aspiration.²⁰ Kates *et al.*²⁹ found good prognosis for natal and neonatal teeth that survived beyond 4 months, but were esthetically unpleasing due to enamel dysplasia. Some natal and neonatal teeth may become less mobile with time.

CONCLUSION

The occurrence of natal teeth is a rare condition in infants. The most commonly involved teeth are mandibular incisors.

When it occurs, it shows varied clinical characteristics and leads to different complications. Radiographic examination is an essential auxiliary tool for the differential diagnosis between early eruption, predeciduous dentition and expulsive folliculitis. Proper treatment plan should be made for the well being of child. Still large group of studies are required to know the etiology and nature of natal teeth.

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