

Natal teeth - A case report with decision support system

Abstract

Natal and Neonatal teeth are although not common developmental anomalies. They are frequently a part of primary dentition anomalies. The prevalence has been observed between 1 in 2000 to 3500 live births. This paper reports a case of natal teeth which were present in the mandibular anterior region in 11 days old infant. Natal teeth represent corresponding position of left and right central incisors and natal teeth were of normal size and shape but the color of left tooth was opaque white in color whereas right tooth was yellowish in color with grade III mobility. Due to the possibility of aspiration because of the presence of mobility and also as the teeth are causing discomfort to the mother during breast feeding, the teeth were extracted under topical anesthesia and the healing was satisfactory. The possible etiological factors along with clinical features, histological features, differential diagnosis, complications and management along with decision support system are discussed.

Keywords: decision support system, natal teeth, newborn, mandibular incisors, primary dentition, precocious dentition

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Introduction

Natal teeth are present in the oral cavity at the time of birth and a neonatal tooth erupts within first 30 days after birth. Teeth erupting beyond the natal period of thirty days (i.e. erupting within 1-3.5 months) are usually referred to as early infancy teeth.¹ Many terminologies used by authors as congenital teeth, fetal teeth, Predeciduous teeth, Premature teeth, Precociously erupted teeth, Dentiata Praecox.^{1,2} The prevalence of natal teeth was between 1 in 2000 to 3500 live births. Conflicts exist regarding the gender predilection of natal teeth. Some studies show a higher incidence in females (66%); this might be biased by greater parental concern about affected females.^{2,3} The exact etiology is unknown, some factors that are assumed to be considered as etiological factors are infection, and febrile states, trauma, malnutrition, hormonal stimulation and exposure to environmental toxins are reflected as maternal risk factors for natal teeth these teeth during the intrauterine period of the child, superficial location of the tooth germ in the infant and also sometimes hereditary (autosomal dominant trait).² Remodeling phenomenon inside the tooth germ by osteoblasts Environmental factors, especially polychlorinated biphenyls (PCB) seem to increase the occurrence of natal teeth.³⁻⁶

The clinical appearance of natal teeth has a diversity which may extend from normal size and shape to a smaller size and conical form; color varies from whitish opaque to yellowish brown and may present in immature form with smaller root formation. Most of the times, they are attached to the gum pads just by a layer of soft tissue over the alveolar ridge.

Case report

An eleven days old infant was referred by the pediatricians to the Department of Paedodontics And Preventive Dentistry for examination with a chief complaint of presence of teeth in the front portion of the lower jaw since birth and difficulty in breast feeding. Prenatal, birth, medical and Family history was non-contributory. On intraoral examination, two teeth are present in the mandibular anterior region and positions of the natal teeth represent the corresponding position of 71 and 81. The left natal tooth was whitish opaque in color whereas the right one

is yellowish, both were present with grade III mobility according to Millers classification of mobility. The size of crown, shape and the appearance were similar to normal teeth and also gingiva seemed to be normal. Size of crown, shape and the appearance were similar to normal teeth and also gingiva seemed to be normal (Figure 1). The maxillary and rest of mandibular gum pads and intraoral mucosa was normal. Because of the association of natal teeth with discomfort to the mother during breast feeding and increased risk of aspiration due to the presence of grade III mobility, both the natal teeth were advised for extraction. The teeth were extracted under topical anesthesia (Figure 2) by using thumb and second finger with the help of a piece of cotton. And a piece of gauze is placed in the floor of the mouth to serve as pharyngeal guard. Curettage of the socket was not performed. Natal teeth were immature type and Patient was recalled for periodic checkup and on examination a complete and eventful healing of the extraction socket was observed (Figure 3). The mother and the infant appeared to be much more contented after the treatment of natal teeth.



Figure 1 Intraoral picture showing Natal teeth in the anterior region of the Mandible.



Figure 2 Extracted Natal Teeth.



Figure 3 Postoperative picture depicting healing of the socket.

Discussion

The child's development is associated with many changes since from intrauterine life to the birth. After birth, the growth and development of child occurs at definite time termed as milestones, of which a smaller deviation of time is acceptable but not delayed. The development of teeth is also considered as a milestone at the age of around 6 months, delayed or early eruption may cause psychological effect on the child as well as the parents.

Myths

The presence of natal teeth is associated with several myths in the society. They are considered as a disastrous event predictor by Titus Livius in 59 BC. According to Gaius Plinius Secundus, natal teeth are thought to be boon for the boys in expectation of marvellous future whereas the same teeth are deliberated as bad omen for girls. The children born with natal teeth are slayed as early as possible after birth in African tribes, as they are believed as conveyors of misfortune.^{4,7-9} Natal teeth are associated with some syndromes like Pachyonychia congenita (Jadassohn-Lewandowsky Syndrome) and cleft palate or lip.^{5,6} However, the present case does not associated with any syndromes (Table 1).

Table 1 Some of the syndromes associated with natal teeth¹⁰⁻¹³

Ellis-VanCreveld (Chondroectodermal Dysplasia)
Pachyonychia
Jadassohn-Lewandowsky
Hallermann-Streiff (Oculomandibulodyscephaly with Hypotrichosis)
Rubinstein-Taybi
Steatocystoma Multiplex
Pierre-Robin
Pallister-Hall
Short Rib-Polydactyly (type II)
Sotos syndrome
Wiedemann-Rautenstrauch (Neonatal Progeria)
Cleft Lip and Palate
Ectodermal Dysplasia

The natal teeth are considered as mature if they are completely developed and are comparable to primary teeth, immature when there is incomplete development.⁸

In 1997, Helbling classified natal teeth into 4 types based on the clinical appearance¹³

- i. Shell-shaped crown, poorly fixed to the alveolus by gingival tissue and absence of a root.
- ii. Solid crown, poorly fixed to the alveolus by gingival tissue and little or no root.
- iii. Eruption of the incisal margin of the crown through the gingival tissues.
- iv. Edema of gingival tissue with an unerupted but palpable tooth.

In our case belongs to immature and category 2, hence natal teeth were extracted. After extraction curettage of the socket is advised to prevent the development of dental papilla cells that may lead to the odontogenic remnants.¹⁴ In the present case, natal teeth were mobile and immature. So, they are extracted without any curettage and radiographic examination. Natal teeth are present with varying degrees of enamel hypoplasia, pulp vascularity and dentinal structure abnormalities like presence of irregular interglobular dentin with irregular arrangement of dentinal tubules,^{15,16} lesser number of dentinal tubules in the cervical part of the crown.¹⁰ Natal teeth presents with complications such as discomfort during suckling, irritation and trauma to infants' tongue, sublingual ulceration (Riga-Fede disease) laceration of the mother's breast and risk of aspiration if mobility exists.^{7,17} Prolonged gingival irritation may increase the incidence of gingival fibrous dysplasia. As the feeding of the child is affected during the early infancy and associated with difficulty in feeding, the growth and development of the child is affected as the only source of nutrition during infancy is milk particularly from the mother.

Differential diagnosis

Differential diagnosis of natal teeth mainly depends on the eruption status of natal teeth includes cysts of natal teeth, Bohn's nodules, Epulis and sometimes lymphangioma and hamartoma of the alveolar ridge.¹³ If the natal teeth are identified as teeth that belong to normal series of primary teeth and they are asymptomatic, treatment includes preservation of those teeth. If they are symptomatic without mobility, grinding of the sharp incisal edges or conservative therapy that includes restoration of the incisal surface with composite resin¹⁸ or photopolymerizable resin¹⁹ are advised. The presence of mobility to the natal teeth changes the treatment approaches which are commonly indicated for extraction because of the increased risk of aspiration.

According to Rushman,²⁰ teeth should not be extracted in infants less than 10 days because of increased bleeding from extracted socket as vitamin k is synthesized by the gut bacteria nearly 10 days after the birth that is essential for the production of thrombin from the liver. If the natal teeth are symptomatic and are definite indicators for extraction before 10 days of age, then vitamin k supplements are given and under careful monitoring of vitamin k levels the teeth are extracted. So, it is wiser to wait for 10 days if it is permits.²¹ Generally, 0.1 - 0.5 mg of vitamin k is administered through intramuscular route to control haemorrhage. Decision support system for the management of natal teeth is shown in Figure 4.

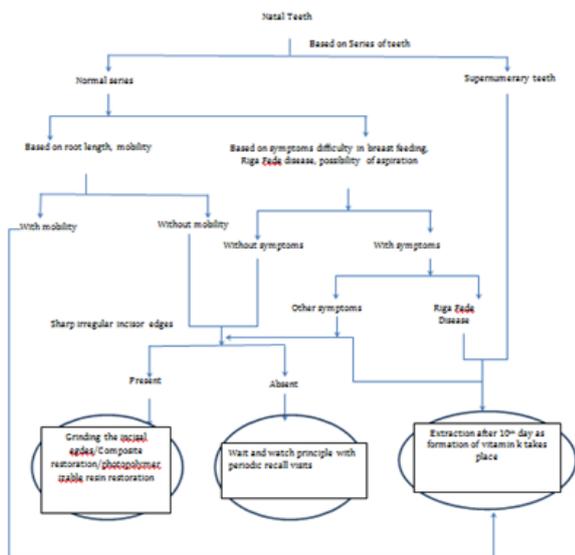


Figure 4 Postoperative picture depicting healing of the socket.

Conclusion

An accurate oral examination is recommended in newborns, in order to establish the appropriate diagnosis as the natal teeth are not the only oral alteration that can be observed in neonates. The present-day scenario in dentistry is to provide early prevention during the first year of life as a way of maintaining oral health. So, as an interdisciplinary approach Pediatricians and Pediatric dentist should work collaboratively in early diagnosis of conditions associated with oral cavity.

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Conflicts of interest

Author declares there are no conflicts of interest.

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